CHAPTER 2 DRAWING INDEX

ACCESS POINT TYPES, RADII AND WIDTHS

USE	SECTION	TYPES OF ACESSES	STD DWG	MIN. RADII	MIN. WIDTH	MAX. WIDTH
RESIDENTIAL	CURB	DROP CURB DRIVEWAY – RESIDENTIAL	2–020	FLARED	10 FEET	30 FEET
	SHOULDER	RESIDENTIAL DRIVEWAY APPROACH – ASPHALT OR	2–030	10 FEET	10 FEET	30 FEET
		RESIDENTIAL DRIVEWAY APPROACH – CONCRETE	2–035	10 FEET	10 FEET	30 FEET
COMMERCIAL	CURB	DROP CURB DRIVEWAY – COMMERCIAL/INDUSTRIAL	2–025	FLARED	25 FEET	40 FEET
	SHOULDER	COMMERCIAL/INDUSTRIAL APPROACH – ASPHALT OR	2–040	10 FEET	25 FEET	40 FEET
		COMMERCIAL/INDUSTRIAL APPROACH – CONCRETE	2–045	10 FEET	25 FEET	40 FEET
INDUSTRIAL	CURB	DROP CURB DRIVEWAY – COMMERCIAL/INDUSTRIAL	2–025	FLARED	25 FEET	40 FEET
	SHOULDER	COMMERCIAL/INDUSTRIAL APPROACH – ASPHALT OR	2–040	10 FEET	25 FEET	40 FEET
		COMMERCIAL/INDUSTRIAL APPROACH – CONCRETE	2–045	10 FEET	25 FEET	40 FEET

NOTES:

1. COMMERCIAL AND INDUSTRIAL ACCESS WIDTHS SHOWN ARE FOR TWO–WAY ACCESS ONTO NON–ARTERIALS. MINIMUM WIDTH FOR ACCESS ONTO ARTERIALS IS 35 FEET. SEE TEXT SECTION 2–03 FOR ONE–WAY WIDTHS.

2. FOR ALL ACCESS POINTS IN VERTICAL CURB SECTIONS, A DROP CURB DRIVEWAY SHALL BE USED.

3. FOR ALL ACCESS POINTS TO COMMERCIAL AND INDUSTRIAL USES, THE CURB, GUTTER AND SIDEWALK SHALL MEET H25 LOADING REQUIREMENTS.

SEE TEXT SECTION 2–03

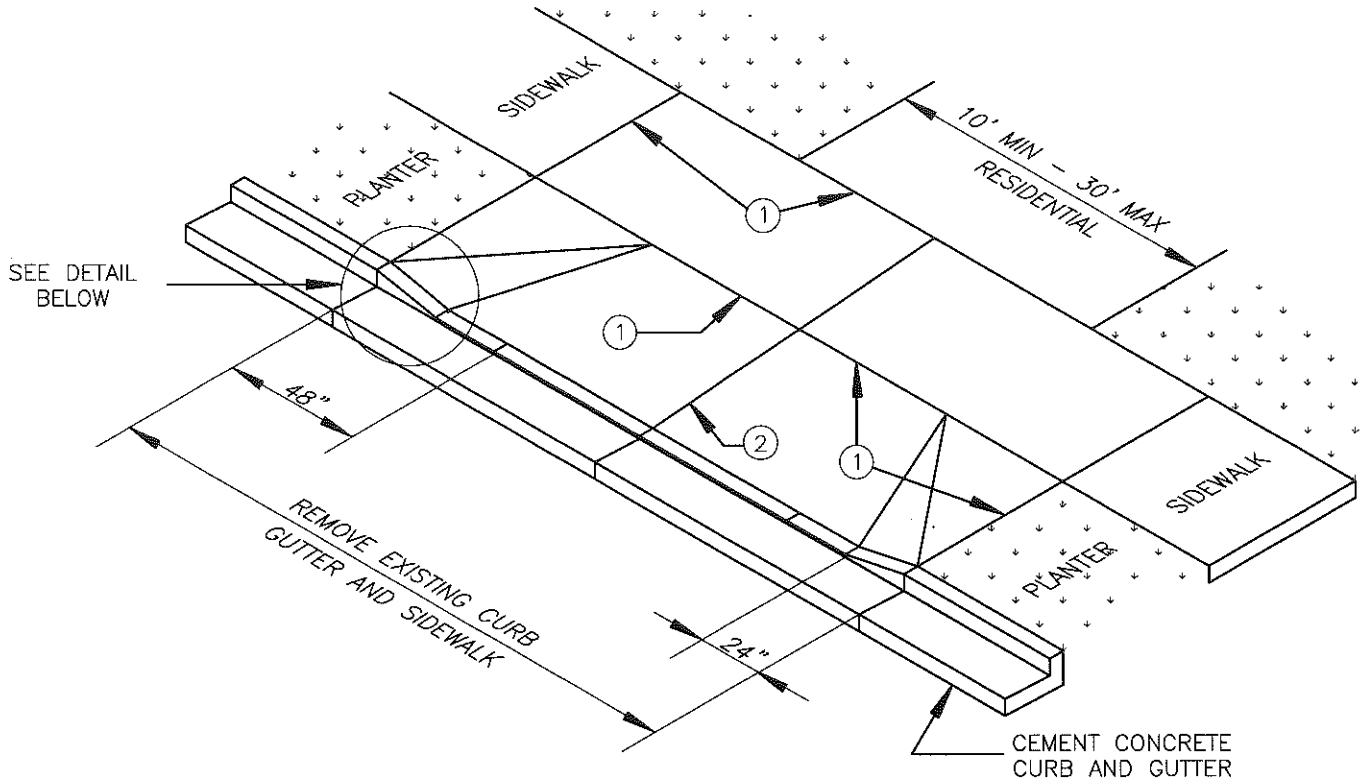
SNOHOMISH COUNTY PUBLIC WORKS

2–010 | ACCESS POINT TYPES, RADII AND WIDTHS

APPROVED BY:

Steven E Thomas 10-1-04

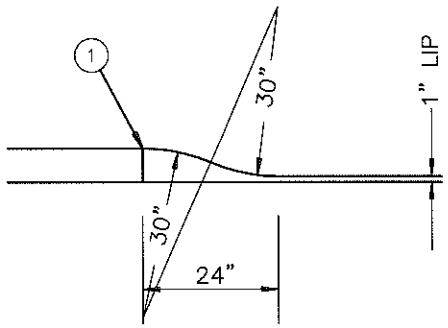
COUNTY ROAD ENGINEER DATE



NOTES:

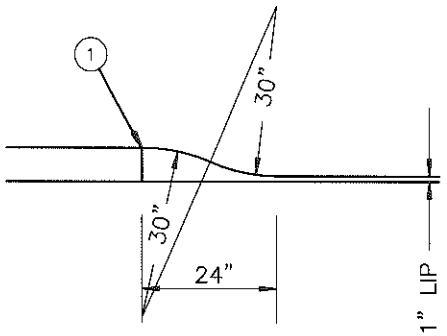
1. FULL DEPTH EXPANSION JOINT, 3/8" MINIMUM THICKNESS.
2. FULL DEPTH EXPANSION JOINT, 3/8" MINIMUM THICKNESS IF WIDTH OF DRIVEWAY IS 15 FEET OR GREATER.
3. DRIVEWAY SECTION WITHIN PUBLIC RIGHT-OF-WAY IS TO BE SURFACED WITH ASPHALT OR CONCRETE.
4. DRIVEWAY CEMENT CONCRETE DEPTH SHALL BE A MINIMUM OF 6" AND PLACED ON COMPACTED GRADE.
5. CONCRETE SHALL BE COMMERCIAL CLASS CONCRETE PER WSDOT/APWA SPECIFICATIONS.
6. CLEAN AND EDGE ALL JOINTS.
7. SEE STD DWG 2-010 TO DETERMINE WHEN THIS DRIVEWAY MAY BE USED.

SEE TEXT SECTION 2-03

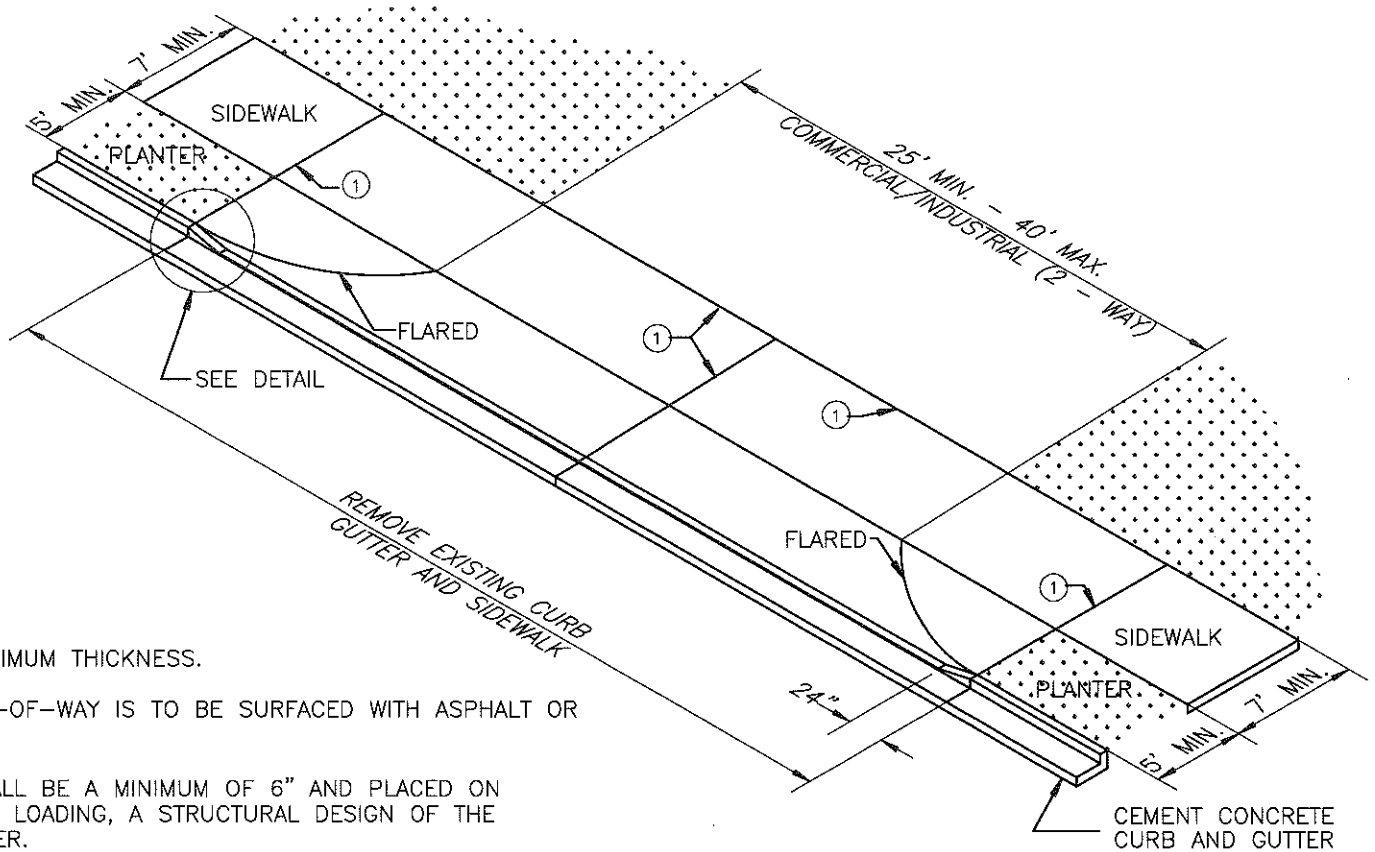


DROP CURB TRANSITION DETAIL

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steve E. Thomas 10-1-04
	2-020 DROP CURB DRIVEWAY – RESIDENTIAL	COUNTY ROAD ENGINEER DATE



DROP CURB
TRANSITION DETAIL



NOTES:

1. FULL DEPTH EXPANSION JOINT, 3/8" MINIMUM THICKNESS.

2. DRIVEWAY SECTION WITHIN PUBLIC RIGHT-OF-WAY IS TO BE SURFACED WITH ASPHALT OR CONCRETE.

3. DRIVEWAY CEMENT CONCRETE DEPTH SHALL BE A MINIMUM OF 6" AND PLACED ON COMPACTED GRADE. DEPENDING ON VEHICLE LOADING, A STRUCTURAL DESIGN OF THE DRIVEWAY MAY BE REQUIRED BY THE ENGINEER.

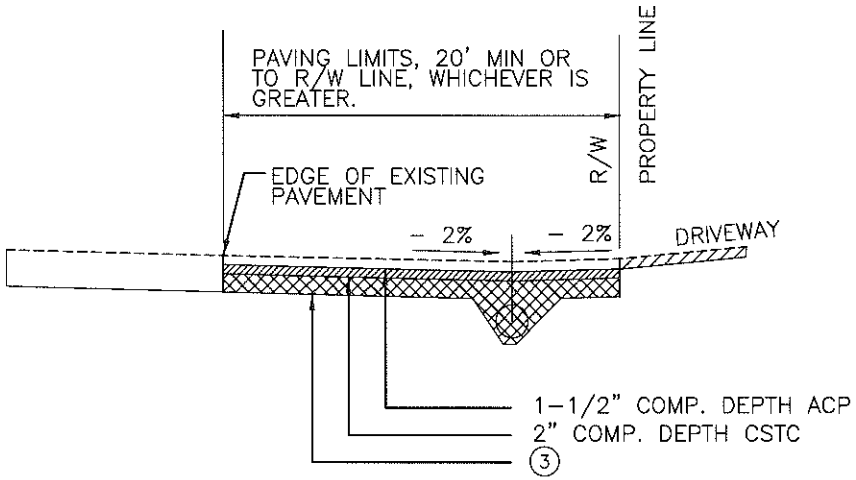
4. CONCRETE SHALL BE COMMERCIAL CLASS CONCRETE PER WSDOT/APWA SPECIFICATIONS.

5. CLEAN AND EDGE ALL JOINTS.

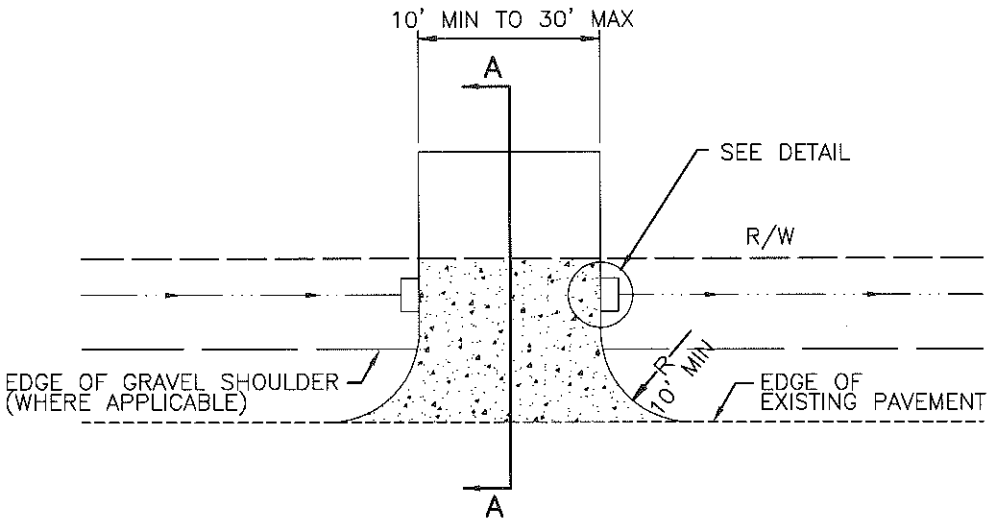
6. COMMERCIAL AND INDUSTRIAL ACCESS WIDTHS SHOWN ARE FOR TWO-WAY ACCESS ONTO NON-ARTERIALS. MINIMUM WIDTH FOR ACCESS ONTO ARTERIALS IS 35 FEET. SEE TEXT SECTION 2-03 FOR ONE-WAY WIDTHS.

7. SEE STD DWG 2-010 TO DETERMINE WHEN THIS DRIVEWAY MAY BE USED.

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven E. Thomas 10-1-04
	2-025 DROP CURB DRIVEWAY - COMMERCIAL/INDUSTRIAL	COUNTY ROAD ENGINEER DATE



SECTION A–A



PLAN

NOTES:

1. FOR ACCESSING ONE OR TWO RESIDENTIAL DWELLING UNITS (ONE DUPLEX OR TWO SINGLE FAMILY RESIDENCES).

2. ALL SURFACE DRAINAGE FROM THE DRIVEWAY MUST BE CONTAINED AND DIRECTED FROM THE DRIVEWAY TO THE OPEN DITCH. NO SURFACE DRAINAGE SHALL FLOW ONTO THE COUNTY ROAD.

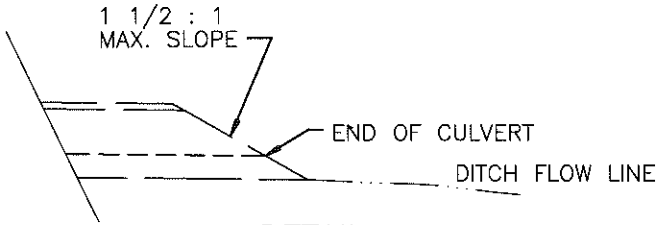
3. SUBGRADE SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH SECTION 2–03.3(14)C OF THE WSDOT/APWA SPECIFICATIONS (METHOD B). SURFACING MATERIALS SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY (MODIFIED PROCTOR).

4. CULVERT PIPE SHALL BE SIZED TO ACCOMMODATE DITCH FLOWS BUT IN NO CASE BE SMALLER THAN 12 INCHES.

5. COVER DEPTHS LESS THAN 12 INCHES REQUIRE APPROVAL BY THE ENGINEER.

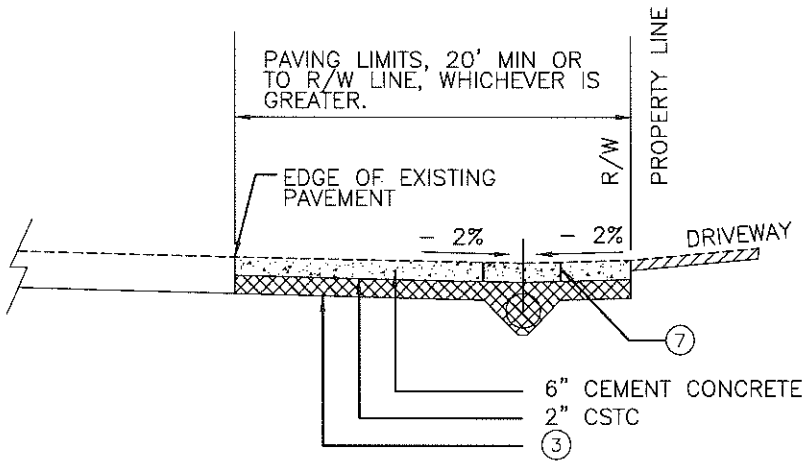
6. A DRIVEWAY CULVERT HEADWALL, SUBJECT TO APPROVAL BY THE ENGINEER, MAY BE USED IN LIEU OF THE 1 1/2: 1 SIDESLOPE.

SEE TEXT SECTION 2–03

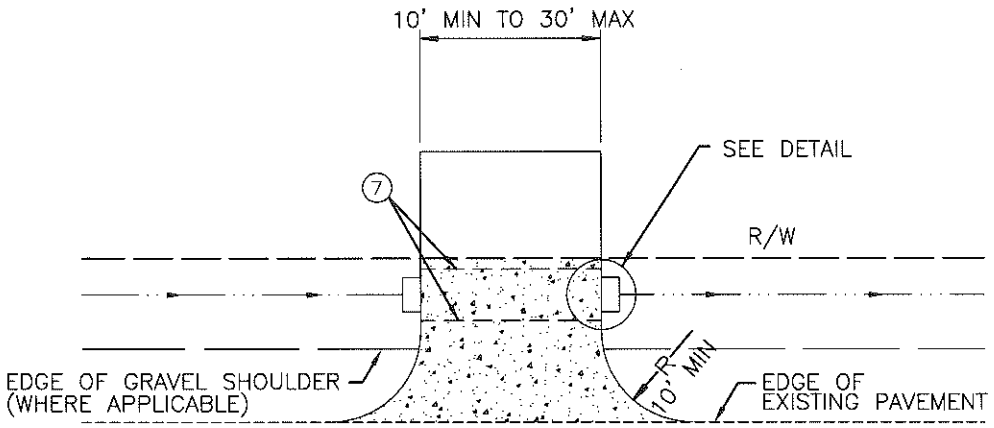


DETAIL

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven E Thomsen 10-1-04
	2–030 RESIDENTIAL DRIVEWAY APPROACH – ASPHALT	COUNTY ROAD ENGINEER DATE



SECTION



PLAN

NOTES:

1. FOR ACCESSING ONE OR TWO RESIDENTIAL DWELLING UNITS (ONE DUPLEX OR TWO SINGLE FAMILY RESIDENCES).

2. ALL SURFACE DRAINAGE FROM THE DRIVEWAY MUST BE CONTAINED AND DIRECTED FROM THE DRIVEWAY TO THE OPEN DITCH. NO SURFACE DRAINAGE SHALL FLOW ONTO THE COUNTY ROAD.

3. SUBGRADE SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH SECTION 2-03.3(14)C OF THE WSDOT/APWA SPECIFICATIONS (METHOD B). SURFACING MATERIALS SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY (MODIFIED PROCTOR).

4. CULVERT PIPE SHALL BE SIZED TO ACCOMMODATE DITCH FLOWS BUT IN NO CASE BE SMALLER THAN 12 INCHES.

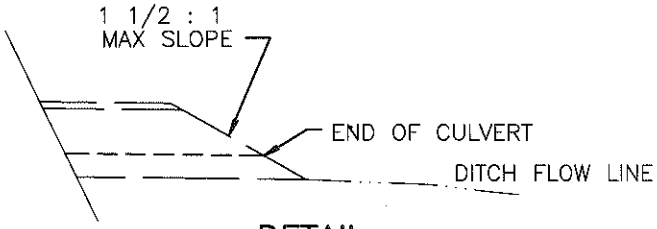
5. COVER DEPTHS LESS THAN 12 INCHES REQUIRE APPROVAL BY THE ENGINEER.

6. A DRIVEWAY CULVERT HEADWALL, SUBJECT TO APPROVAL BY THE ENGINEER, MAY BE USED IN LIEU OF THE 1 1/2: 1 SIDESLOPE.

7. EXPANSION JOINT REQUIRED AT A DISTANCE OF 1 1/2 TIMES THE PIPE DIAMETER FROM PIPE CENTERLINE. MATERIAL MAY BE CEDAR 2"X6" OR 3/8" MIN. X FULL DEPTH PREMOLDED JOINT MATERIAL.

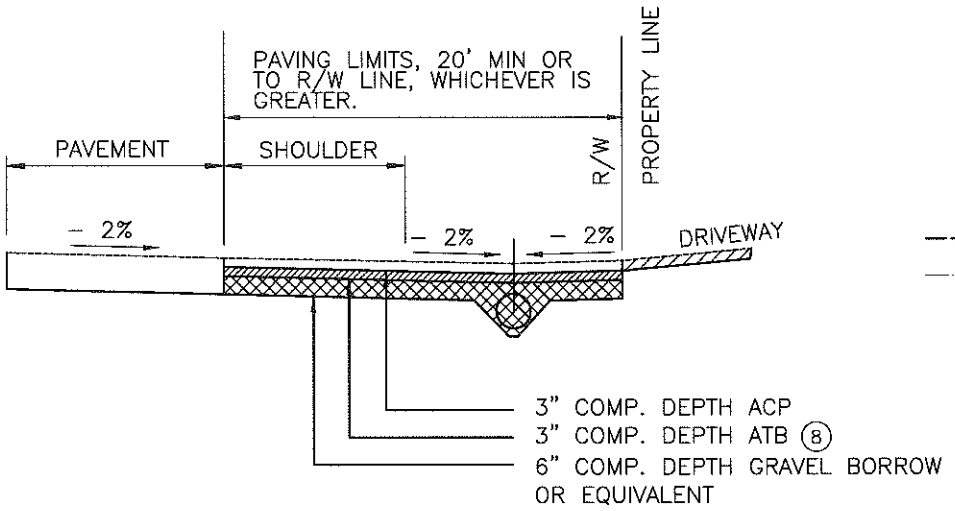
8. PAVEMENT/DRIVEWAY INTERFACE MUST BE A CLEAN STRAIGHT SURFACE WITH A 3/8" MIN. X FULL DEPTH EXPANSION JOINT. 3/8" MIN. THICKNESS OF PREMOLDED JONT MATERIAL REQUIRED. (NO CEDAR).

SEE TEXT SECTION 2-03

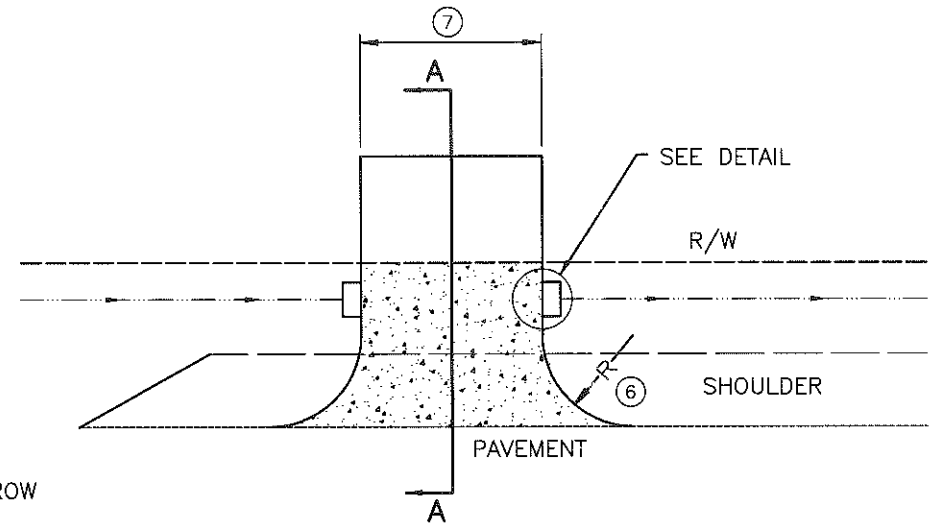


DETAIL

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven E. Thomas 10-1-04
	2-035 RESIDENTIAL DRIVEWAY APPROACH – CONCRETE	COUNTY ROAD ENGINEER DATE



SECTION A–A



PLAN

NOTES:

1. ALL SURFACE DRAINAGE FROM THE DRIVEWAY MUST BE CONTAINED AND DIRECTED FROM THE DRIVEWAY TO THE OPEN DITCH. NO SURFACE DRAINAGE SHALL FLOW ONTO THE COUNTY ROAD.

2. SUBGRADE SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH SECTION 2–03.3(14)C OF THE WSDOT/APWA SPECIFICATIONS (METHOD B). SURFACING MATERIALS SHALL BE COMPACTED TO 95% MAXIMUM DENSITY (MODIFIED PROCTOR).

3. CULVERT PIPE SHALL BE 12 INCHES MINIMUM DIAMETER AND LARGER IF DRAINAGE REQUIRES.

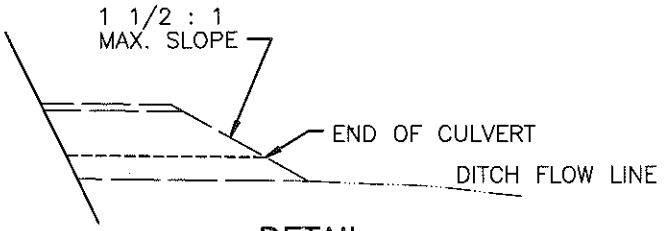
4. COVER DEPTHS LESS THAN 12" REQUIRE REINFORCED CONCRETE CULVERT PIPE AND APPROVAL BY THE ENGINEER.

5. A DRIVEWAY CULVERT HEADWALL, SUBJECT TO APPROVAL BY THE ENGINEER, MAY BE USED IN LIEU OF THE 1 1/2 : 1 SIDESLOPE.

6. SEE STANDARD DRAWING 2–010 FOR RADII.

7. MAXIMUM WIDTH: 40'. MINIMUM WIDTH SEE SECTION 2–03.

8. ADDITIONAL PAVEMENT THICKNESS MAY BE REQUIRED FOR HEAVY TRUCK TRAFFIC.



DETAIL

SEE TEXT SECTION 2–03

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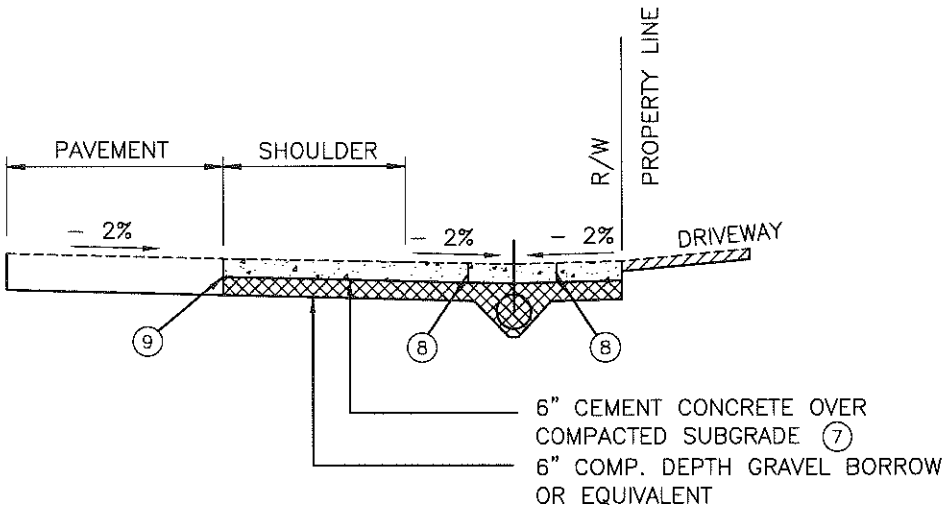
SNOHOMISH COUNTY PUBLIC WORKS

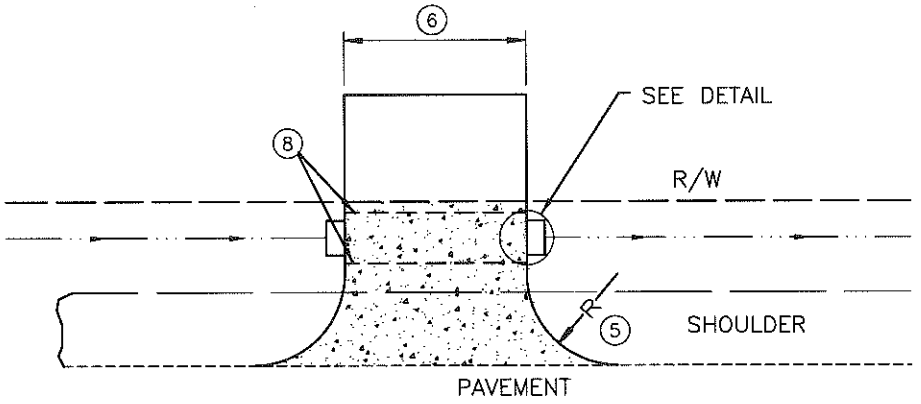
2–040 | COMMERCIAL/INDUSTRIAL APPROACH–ASPHALT

APPROVED BY: Steve E Thorsen 2-25-03

COUNTY ROAD ENGINEER DATE



SECTION



PLAN

NOTES:

1. ALL SURFACE DRAINAGE FROM THE DRIVEWAY MUST BE CONTAINED AND DIRECTED FROM THE DRIVEWAY TO THE OPEN DITCH. NO SURFACE DRAINAGE SHALL FLOW ONTO THE COUNTY ROAD.

2. CULVERT PIPE SHALL BE 12 INCHES MINIMUM DIAMETER AND LARGER IF DRAINAGE REQUIRES.

3. COVER DEPTHS LESS THAN 12 INCHES REQUIRE REINFORCED CONCRETE CULVERT PIPE AND APPROVAL BY THE ENGINEER.

4. A DRIVEWAY CULVERT HEADWALL, SUBJECT TO APPROVAL BY THE ENGINEER, MAY BE USED IN LIEU OF THE 1 1/2 : 1 SIDESLOPE.

5. SEE STANDARD DRAWING 2-010 FOR RADII.

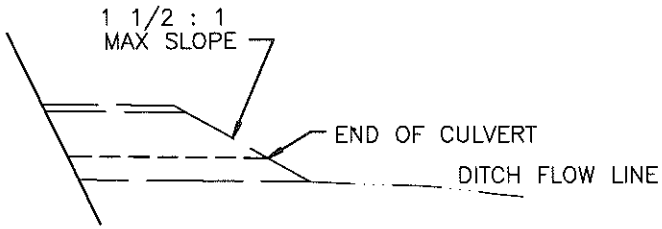
6. MAXIMUM ACCESS POINT WIDTH: 40'. MINIMUM WIDTH SEE SECTION 2-03.

7. ADDITIONAL PAVEMENT THICKNESS MAY BE REQUIRED FOR HEAVY TRUCK TRAFFIC.

8. EXPANSION JOINT REQUIRED AT A DISTANCE OF 1 1/2 TIMES THE PIPE DIAMETER FROM PIPE CENTERLINE. MATERIAL MAY BE CEDAR 2"X6" OR 3/8" MIN. X FULL DEPTH PREMOLDED JOINT MATERIAL.

9. PAVEMENT/DRIVEWAY INTERFACE MUST BE A CLEAN STRAIGHT SURFACE WITH A 3/8" MIN. X FULL DEPTH EXPANSION JOINT. 3/8" MIN THICKNESS OF PREMOLDED JOINT MATERIAL REQUIRED. (NO CEDAR).

SEE TEXT SECTION 2-03



DETAIL

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SNOHOMISH COUNTY PUBLIC WORKS

2-045 COMMERCIAL/INDUSTRIAL APPROACH – CONCRETE

APPROVED BY: Steven E. Thomsen 2-25-03

COUNTY ROAD ENGINEER DATE

MINIMUM ACCESS POINT SPACING – COMMERCIAL/INDUSTRIAL (FEET) ① ⑥

ROADWAY SPEED (MPH) ②	DIMENSION A		DIMENSION B ⑤		DIMENSION C ⑤	
	ARTERIALS ③	NON–ARTERIALS ④	ARTERIALS	NON–ARTERIALS	ARTERIALS	NON–ARTERIALS
25	105	35	105	75	105	35
30	125	40	125	75	125	40
35	150	45	150	75	150	45
40	185	50	185	75	185	50
45	230	50	230	75	230	50
50	275	50	275	75	275	50

NOTES:

1. ACCESS POINT SPACING ONLY. FOR PUBLIC STREET SPACING, SEE TEXT SECTION 3–09.

2. REFERS TO POSTED SPEED OR OPERATING SPEED, WHICHEVER IS GREATER.

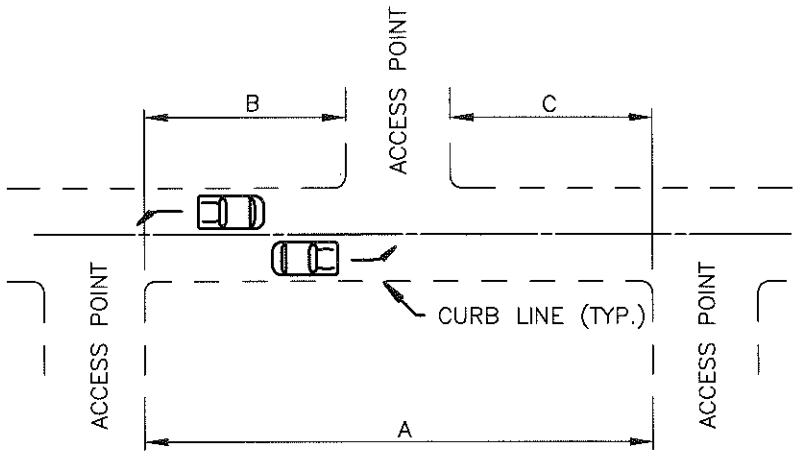
3. BETWEEN THE NEAREST EDGES OF TWO–WAY ACCESS POINTS. DISTANCES BETWEEN ADJACENT, ONE–WAY ACCESS POINTS (WITH THE INBOUND ACCESS UPSTREAM) CAN BE ONE–HALF THE DISTANCES SHOWN ABOVE.

4. BETWEEN THE NEAREST EDGES OF ONE OR TWO–WAY ACCESS POINTS.

5. ACCESS POINTS DIRECTLY OPPOSITE FROM EACH OTHER ARE MOST DESIRABLE. WHERE THIS IS NOT POSSIBLE, THESE DIMENSIONS WILL APPLY.

6. WHERE ACCESS POINTS ARE TO BE SIGNALIZED, A MINIMUM SPACING OF 1200 FEET TO ANY OTHER SIGNALIZED INTERSECTION SHOULD BE MAINTAINED. IF THE SIGNALIZED ACCESS POINTS FORM A "T" INTERSECTION WITH LITTLE POSSIBILITY OF ANY FUTURE ACCESS POINT ACROSS THE STREET, A MINIMUM SPACING OF 600 FEET FROM THE NEAREST SIGNALIZED INTERSECTION MAY BE ACCEPTABLE.

7. IN CASES WHERE ACCESS POINT SPACING IS NOT ATTAINABLE BECAUSE EXISTING FRONTAGES ARE NARROW, ACCESS POINTS SHOULD BE LOCATED AS CLOSE TO THE TABULATED VALUES SHOWN ABOVE AS POSSIBLE. WHEN THIS OCCURS, THE ENGINEER MAY REQUIRE ANALYSIS TO DETERMINE IF LEFT TURNS SHOULD BE PROHIBITED INTO OR OUT OF THE ACCESS POINT.



PLAN

SEE TEXT SECTION 2–04

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SNOHOMISH COUNTY PUBLIC WORKS

APPROVED BY: Steve Thomas 2-7-03
COUNTY ROAD ENGINEER DATE

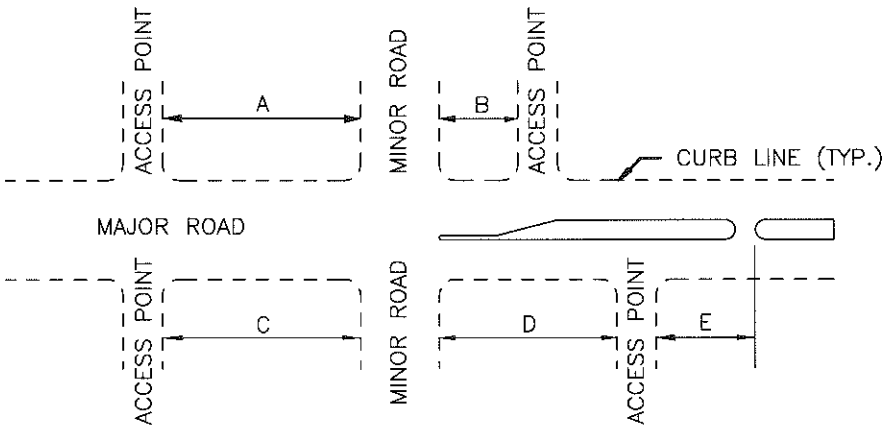
2–050 COMMERCIAL/INDUSTRIAL ACCESS POINT SPACING

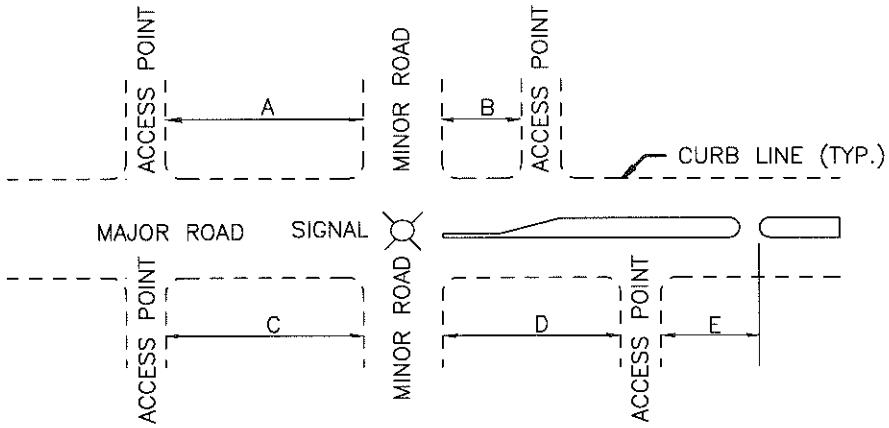
MINIMUM CORNER CLEARANCES FOR STOP SIGN INTERSECTION CONTROL (IN FEET)

	ARTERIALS						NON–ARTERIALS
	ARTERIAL POSTED SPEED						ALL SPEEDS
DIM.	30	35	40	45	50	55	
A	115	135	160	180	205	230	50
B	85	105	120	140	155	170	50
C	115	135	160	180	205	230	50
D	115	135	160	180	205	230	50
E	115 OR 0	135 OR 0	160 OR 0	180 OR 0	205 OR 0	230 OR 0	0

MINIMUM CORNER CLEARANCES FOR SIGNALIZED INTERSECTION CONTROL (IN FEET)

	ARTERIALS						NON–ARTERIALS
	ARTERIAL POSTED SPEED						ALL SPEEDS
DIM.	30	35	40	45	50	55	
A	230	275	320	365	410	460	50
B	115	135	160	180	205	230	50
C	230	275	320	365	410	460	50
D	230	275	320	365	410	460	50
E	115 OR 0	135 OR 0	160 OR 0	180 OR 0	205 OR 0	230 OR 0	0





NOTES:

1. IN CASES WHERE CORNER CLEARANCES ARE NOT ATTAINABLE BECAUSE FRONTAGES ARE NARROW, ACCESS POINTS SHOULD BE LOCATED AS CLOSE AS PRACTICABLE TO THE PROPERTY LINE MOST DISTANT FROM THE INTERSECTION. THE ENGINEER MAY REQUIRE ANALYSIS OF SUCH LOCATIONS TO DETERMINE IF LEFT TURNS SHOULD BE PROHIBITED INTO OR OUT OF THE ACCESS POINT.

2. ACCESS POINTS NEAR STOP OR SIGNAL CONTROLLED INTERSECTIONS SHALL BE ANALYZED TO DETERMINE WHETHER STOPPING QUEUES WILL BLOCK THE ACCESS POINT.

SEE TEXT SECTION 2–05

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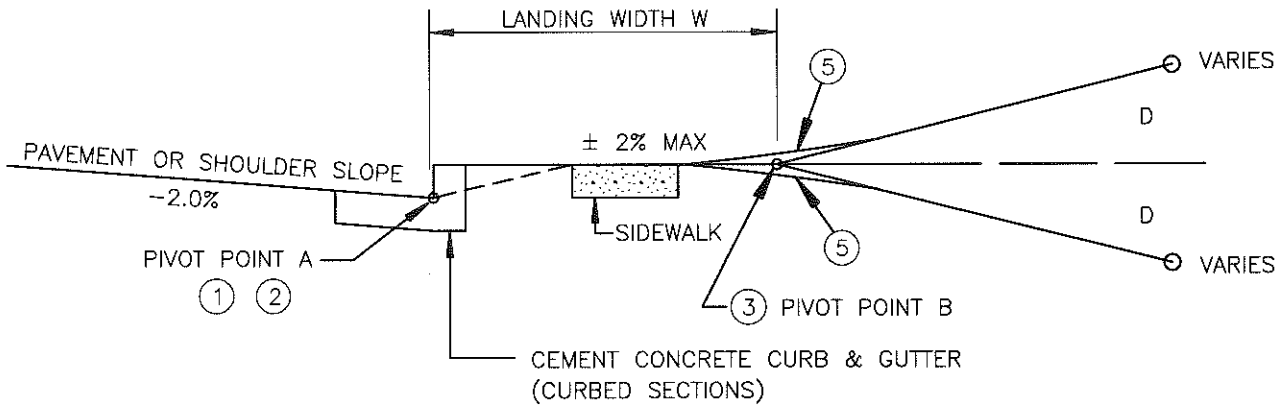
SNOHOMISH COUNTY PUBLIC WORKS

2–060 | COMMERCIAL/INDUSTRIAL CORNER CLEARANCES

APPROVED BY: Steve E Thomas 2-7-03

COUNTY ROAD ENGINEER DATE



NOTES:

1. SEE STD DWG 4-140 FOR CURB DETAILS.

2. WHEN ACCESSING SHOULDERED ROADWAYS, MAINTAIN SHOULDER SLOPE TO PIVOT POINT A.

3. ACCESS POINT GRADE SHALL BE MEASURED FROM PIVOT POINT B.

4. LANDING WIDTH W MAY BE REDUCED SUBJECT TO APPROVAL OF THE ENGINEER IN ACCORDANCE WITH SECTION 1-05 OF THESE STANDARDS.

5. A VERTICAL CURVE SHALL BE CONSTRUCTED TO TRANSITION THE LANDING TO THE ACCESS APPROACH. THE VERTICAL SEPARATION BETWEEN THE CURVE AND A 10-FOOT CHORD OF THE CURVE SHALL NOT EXCEED 3.25 INCHES (WHERE D IS POSITIVE) OR 2.00 INCHES (WHERE D IS NEGATIVE).

6. GRADE ACROSS RURAL LANDING MAY BE ±5%.

SEE TEXT SECTION 2-07

TYPE OF ACCESS	ACCESSING	LANDING WIDTH W ④	ACCESS GRADE D
RESIDENTIAL (URBAN)	NON-ARTERIAL	15'	± 15% MAX.
RESIDENTIAL (URBAN)	ARTERIAL	15'	± 7% MAX.
RESIDENTIAL (RURAL)	ALL	5' ⑥	± 15% MAX.
COMMERCIAL/INDUSTRIAL	NON-ARTERIAL	30'	± 8% MAX.
COMMERCIAL/INDUSTRIAL	ARTERIAL	30'	± 5% MAX.

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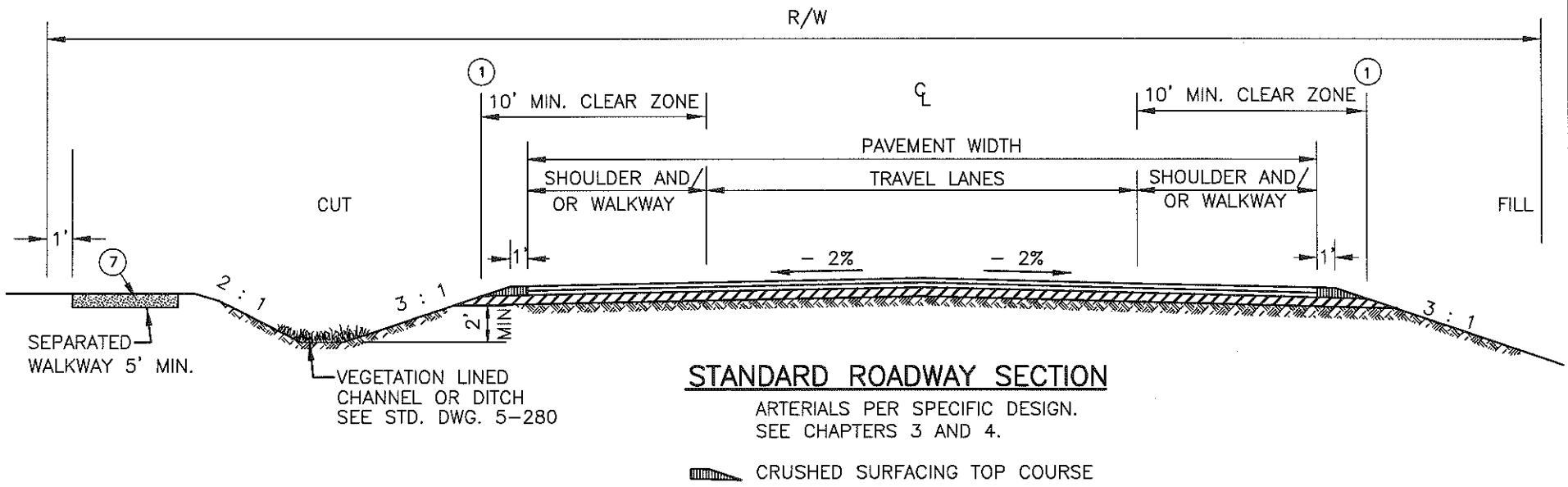
SNOHOMISH COUNTY PUBLIC WORKS

2-070 ACCESS POINT GRADES

APPROVED BY: Steve Thomas 2-25-03

COUNTY ROAD ENGINEER DATE

CHAPTER 3 DRAWING INDEX



STANDARD ROADWAY SECTION

ARTERIALS PER SPECIFIC DESIGN.
SEE CHAPTERS 3 AND 4.

CRUSHED SURFACING TOP COURSE

NOTES:

1. CLEAR ZONE DISTANCES SHOWN APPLY TO ROADS WITH A POSTED SPEED OF 35 MPH OR LESS. CLEAR ZONE DISTANCES FOR ROADS POSTED AT GREATER THAN 35 MPH SHOULD BE DETERMINED ACCORDING TO CHAPTER 7 OF THE WSDOT DESIGN MANUAL.

2. R/W, PAVEMENT, AND SHOULDER WIDTHS VARY. SEE STANDARD DRAWING 3–030B. CROSS–SECTION MAY BE ALTERED WHERE A STREAM OR WETLAND BORDERS THE ROAD.

3. SEE STANDARD DRAWING 8–010 FOR PLACEMENT OF UTILITIES.

4. WHERE BICYCLE LANES ARE REQUIRED ON ARTERIALS, PAVEMENT WIDTH AND R/W WIDTH SHALL BE INCREASED TO ACCOMMODATE THE BICYCLE LANES.

5. R/W WIDTH MAY BE REDUCED WHERE THE ENGINEER HAS DETERMINED THAT ADEQUATE PROVISIONS HAVE BEEN MADE FOR WALKWAYS, BIKEWAYS, SWALES OR OTHER FEATURES OUTSIDE THE R/W.

6. IN FILL SECTIONS AND AROUND CUL–DE–SACS, THE ENGINEER MAY REQUIRE A THICKENED EDGE TO CONTROL DRAINAGE. SEE STANDARD DRAWING 4–145.

7. PREFERRED WALKWAY LOCATION WHERE R/W PERMITS. WHEN PLACED IN THIS LOCATION, A WIDENED SHOULDER FOR A WALKWAY WILL NOT BE REQUIRED. SEE TEXT TABLE 4–1 FOR SURFACING REQUIREMENTS.

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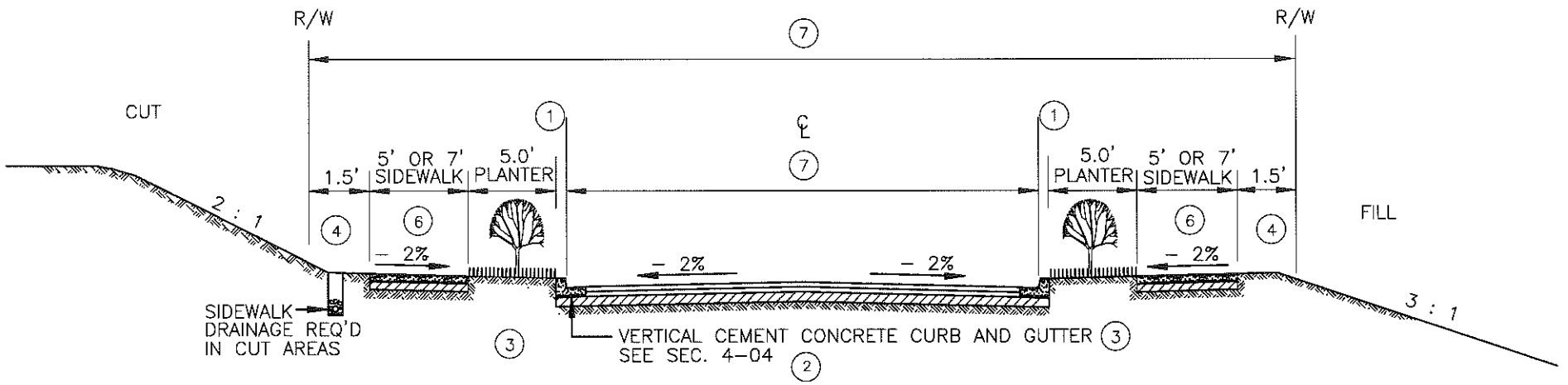
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven E Thomas 4-17-03
	3–010 TYPICAL ARTERIAL ROAD – RURAL AREAS	COUNTY ROAD ENGINEER DATE



STANDARD ROADWAY SECTION

ARTERIALS PER SPECIFIC DESIGN. SEE CHAPTERS 3 AND 4.

NOTES:

1. URBAN CLEAR ZONE DISTANCE SHALL BE 2 FT. BEYOND THE FACE OF CURB FOR ROADS WITH A POSTED SPEED OF 35 MPH OR LESS. CLEAR ZONE DISTANCES FOR ROADS POSTED AT GREATER THAN 35 MPH SHOULD BE DETERMINED ACCORDING TO CHAPTER 7 OF THE WSDOT DESIGN MANUAL.

2. SEE STANDARD DRAWING 8–020 FOR PLACEMENT OF UTILITIES.

3. REFER TO SECTION 4–01 FOR LANDSCAPING REQUIREMENTS. ALL LANDSCAPING WITHIN THE RIGHT OF WAY IS SUBJECT TO APPROVAL BY DPW.

4. THE R/W LINE SHALL BE AT LEAST 1.5 FEET BEHIND THE BACK OF SIDEWALK.

5. CROSS–SECTION MAY BE ALTERED WHERE A STREAM OR WETLAND BORDERS THE ROAD.

6. REFER TO TEXT SECTION 4–05 FOR SIDEWALK WIDTH REQUIREMENTS.

7. SEE STANDARD DRAWING 3–030B FOR WIDTH REQUIREMENTS.

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	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steve Thomsen 5-29-03
	3–020 TYPICAL ARTERIAL ROAD–URBAN AREAS	COUNTY ROAD ENGINEER DATE

ROAD STANDARDS – ARTERIALS

RURAL AREA STANDARDS ARE TO BE USED IN DESIGNING ROADS UTILIZING SHOULDERS AND OPEN DRAINAGE. THESE STANDARDS WILL GENERALLY BE REQUIRED IN RURAL AREAS AS DESIGNATED IN SNOHOMISH COUNTY'S COMPREHENSIVE PLANS. HOWEVER, THESE STANDARDS MAY ALSO BE ALLOWED FOR THOSE ROADS LYING INSIDE THE URBAN AREA BOUNDARY WHERE ZONING REQUIRES RESIDENTIAL LOT SIZES OF APPROXIMATELY ONE–HALF ACRE OR MORE AND CHARACTERIZED BY LARGE AREAS OF FARMLAND OR NATURAL AND UNDEVELOPED LANDS.

URBAN AREA STANDARDS ARE TO BE USED IN DESIGNING STREETS UTILIZING CURB AND GUTTER SECTIONS, SIDEWALKS AND ENCLOSED DRAINAGE. THESE STANDARDS WILL GENERALLY BE REQUIRED IN AREAS OF SUBURBAN OR HIGHER DENSITIES AS DESIGNATED IN SNOHOMISH COUNTY'S COMPREHENSIVE PLANS. HOWEVER, THESE STANDARDS MAY ALSO BE REQUIRED FOR THOSE ROADS IN RURAL AREAS WHERE ZONING PERMITS RESIDENTIAL LOT SIZES OF APPROXIMATELY ONE–THIRD ACRE OR LESS, COMMERCIAL OR INDUSTRIAL DEVELOPMENT, OR OTHER INTENSIVE LAND USES.

NOTES:

1. PAVEMENT WIDTH FOR RURAL ARTERIALS IS MEASURED FROM OUTSIDE EDGE OF SHOULDER TO OUTSIDE EDGE OF SHOULDER. URBAN ARTERIALS ARE MEASURED FROM FACE OF CURB TO FACE OF CURB. WIDTH VARIES DEPENDING ON WHETHER BICYCLE LANES OR WIDENED EXTERIOR LANES ARE CONSTRUCTED. SEE TEXT SECTION 4–08.

2. SHOULDER WIDTHS VARY. SEE TEXT SECTION 4–06.

3. DESIGNATED WALKWAYS SHALL BE DELINEATED IN ACCORDANCE WITH STANDARD DRAWING 4–160.

4. ALL PAVED SHOULDERS AND NON–SEPARATED WALKWAYS SHALL BE CONSTRUCTED TO THE SAME PAVEMENT SECTION AS REQUIRED FOR TRAVEL LANES.

5. BOULEVARDS (I.E., STREETS WITH MEDIANS) SHALL BE CONSTRUCTED WITH A MINIMUM OF 20 FEET OF CLEAR PAVEMENT ON EACH SIDE OF THE MEDIAN. IF PARKING IS ALLOWED, A MINIMUM OF 28 FEET SHALL BE CONSTRUCTED ON EACH SIDE OF THE MEDIAN TO ALLOW FOR 20 FEET OF CLEAR PAVEMENT PLUS 8 FEET OF PARKING.

6. ROADS IN COMMERCIAL/INDUSTRIAL AREAS SERVING SIGNIFICANT VOLUMES OF TRUCK TRAFFIC MAY REQUIRE ADDITIONAL WIDTH AND PAVEMENT DEPTH AS DETERMINED BY THE ENGINEER BASED ON SUPPORTING DATA SUBMITTED BY THE DEVELOPER.

7. NUMBER OF LANES TO BE DETERMINED FROM THE TRANSPORTATION ELEMENT OF THE COMPREHENSIVE PLAN AND THE TRANSPORTATION NEEDS REPORT.

8. ADDITIONAL R/W WIDTH MAY BE REQUIRED TO ACCOMMODATE 7–FOOT SIDEWALKS IN COMMERCIAL/INDUSTRIAL OR MULTI–FAMILY RESIDENTIAL ZONED AREAS.

9. IF BICYCLE LANES ARE REQUIRED. SEE TEXT SECTION 4–08. MINIMUM WIDTH SHALL BE 5 FT IN A CURB ROAD SECTION AND 4 FT IN A NON–CURB ROAD SECTION.

10. IF BICYCLE LANES ARE NOT REQUIRED, THE EXTERIOR LANE WIDTH ON URBAN ROADS SHALL BE 14 FT TO PROVIDE A SHARED TRAVEL LANE.

SEE TEXT CHAPTER 3

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	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven C. Thorman 5-29-03
	3–030A ROAD STANDARDS – ARTERIALS	COUNTY ROAD ENGINEER DATE

RURAL ARTERIALS

MINIMUM WIDTH IN FEET

RURAL AREAS	R/W	PAVEMENT WIDTH (1)	EXTERIOR LANE (10)	INTERIOR LANE	SHOULDER SIDE/SIDE (2)(3)(4)
MINOR COLLECTOR					
ADT < 400	70	36	11	--	7/7
ADT 400 to 2000	70	38	11	--	8/8
ADT > 2000	70	40	12	--	8/8
MAJOR COLLECTOR					
ADT < 2000	80	38	11	--	8/8
ADT > 2000 (2 Lane)	80	40	12	--	8/8
ADT > 2000 (4 Lane)	100	62	11	12	8/8

URBAN ARTERIALS

MINIMUM WIDTH IN FEET

URBAN AREAS (5)(6)(7)	R/W (8)	PAVEMENT WIDTH (1)	BICYCLE LANE (9)	EXTERIOR LANE (10)	INTERIOR LANE	LEFT TURN LANE
COLLECTOR ARTERIAL						
(2 Lanes)	70	28–34	5	12–14	--	--
(3 Lanes)	70	40–46	5	12–14	--	12
(4 Lanes)	80	50–56	5	12–14	11	--
(5 Lanes)	92	62–68	5	12–14	11	12
MINOR ARTERIAL						
(2 Lanes)	80	28–34	5	12–14	--	--
(3 Lanes)	80	40–46	5	12–14	--	12
(4 Lanes)	80	50–56	5	12–14	11	--
(5 Lanes)	92	62–68	5	12–14	11	12
PRINCIPAL ARTERIAL						
(4 Lanes)	100	52–58	5	12–14	12	--
(5 Lanes)	100	64–70	5	12–14	12	12
(6 Lanes)	106	76–82	5	12–14	12	--
(7 Lanes)	118	88–94	5	12–14	12	12

NOTE:

1. SEE STD. DRAWING 3–030A FOR NOTES.

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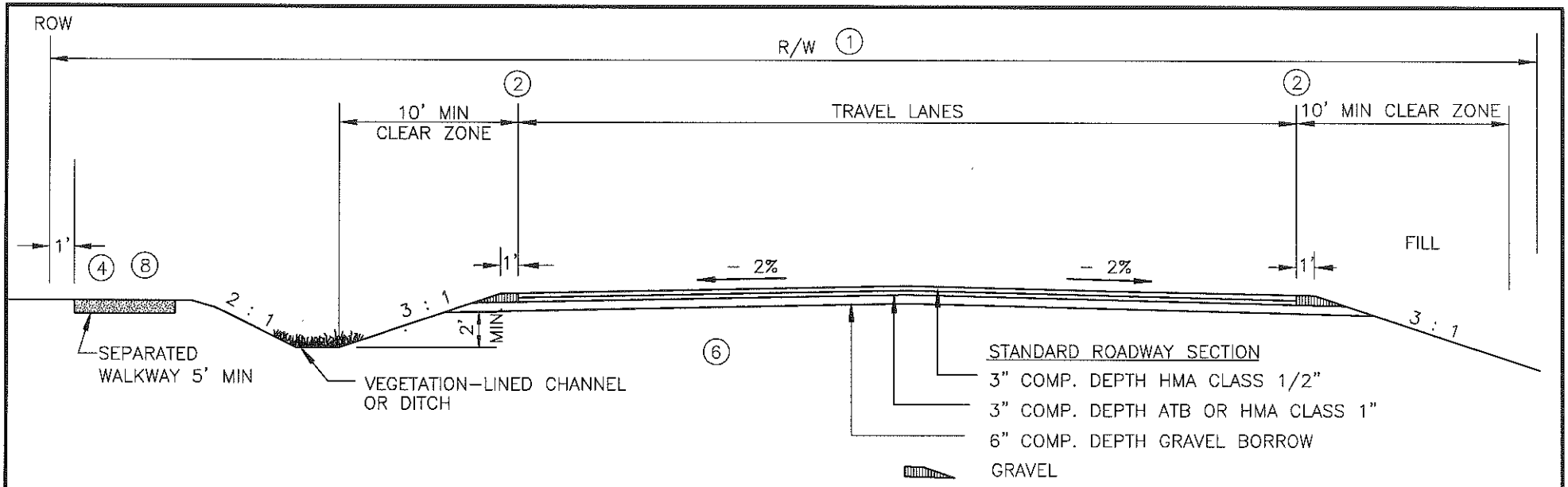
SNOHOMISH COUNTY PUBLIC WORKS

3–030B | ROAD STANDARDS – ARTERIALS

APPROVED BY: Steven Thomas 5-29-03

COUNTY ROAD ENGINEER DATE

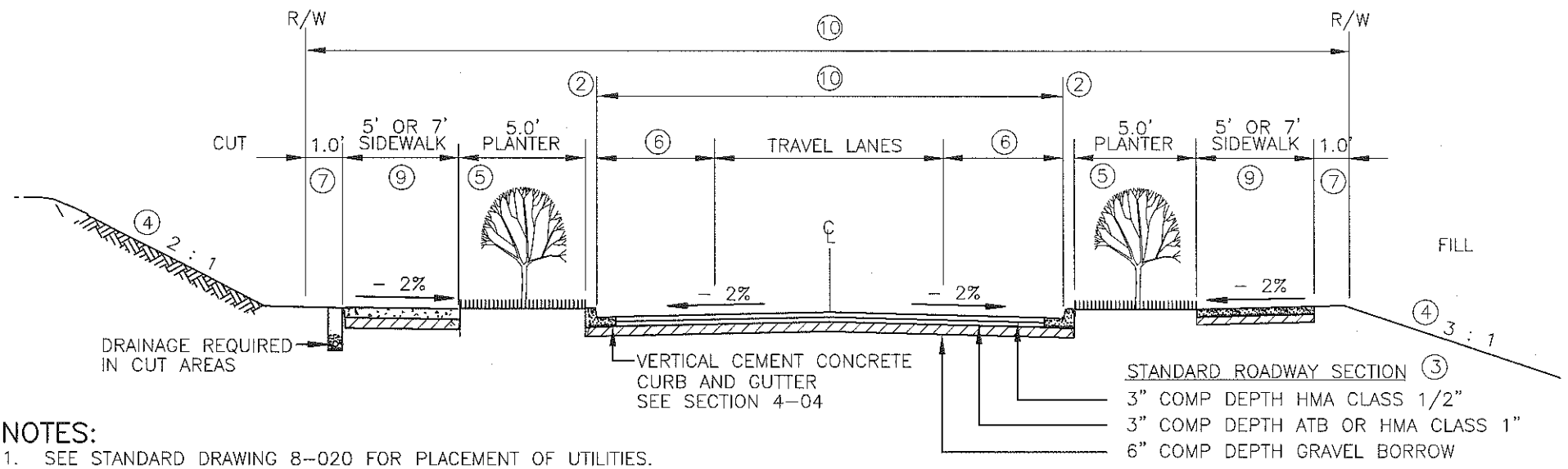


NOTES:

1. RIGHT OF WAY WIDTH WILL VARY DEPENDING ON LOCATION AND OWNERSHIP OF DRAINAGE AND PEDESTRIAN FACILITIES.
2. CLEAR ZONE DISTANCES SHOWN APPLY TO ROADS WITH A POSTED SPEED OF 35 MPH OR LESS. CLEAR ZONE DISTANCES FOR ROADS POSTED AT GREATER THAN 35 MPH SHOULD BE DETERMINED ACCORDING TO CHAPTER 7 OF THE WSDOT DESIGN MANUAL.
3. CROSS-SECTION MAY BE ALTERED WHERE A STREAM OR WETLAND BORDERS THE ROAD.
4. A WALKWAY IS NOT REQUIRED FOR ACCESS ROADS SERVING 90 ADT OR LESS AND HAVING NO POTENTIAL FOR CONNECTIVITY.
5. IN FILL SECTIONS AND AROUND CUL-DE-SACS, THE ENGINEER MAY REQUIRE A THICKENED EDGE TO CONTROL EROSION. SEE STANDARD DRAWING 4-145.
6. SEE STANDARD DRAWING 8-010 FOR PLACEMENT OF UTILITIES.
7. SEE STD DWGS 3-060 & 3-065 FOR ADDITIONAL SPECIFICATIONS. INDUSTRIAL/COMMERCIAL ROADS SERVING SIGNIFICANT VOLUMES OF TRUCK TRAFFIC MAY REQUIRE ADDITIONAL WIDTH AND PAVEMENT DEPTH AS DETERMINED BY THE ENGINEER BASED ON DATA SUBMITTED BY THE DEVELOPER.
8. PREFERRED WALKWAY LOCATION WHERE R/W PERMITS. WHEN PLACED IN THIS LOCATION, A WIDENED SHOULDER FOR A WALKWAY WILL NOT BE REQUIRED. SEE TEXT TABLE 4-1 FOR SURFACING REQUIREMENTS.

SEE TEXT CHAPTER 3

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: 4/6/09
	3-040 TYPICAL NON-ARTERIAL ROAD-RURAL AREAS	COUNTY ROAD ENGINEER DATE



NOTES:

1. SEE STANDARD DRAWING 8–020 FOR PLACEMENT OF UTILITIES.

2. URBAN CLEAR ZONE DISTANCE SHALL BE 2 FT. BEYOND THE FACE OF CURB FOR ROADS WITH A POSTED SPEED OF 35 MPH OR LESS. CLEAR ZONE DISTANCES FOR ROADS POSTED AT GREATER THAN 35 MPH SHOULD BE DETERMINED ACCORDING TO CHAPTER 7 OF THE WSDOT DESIGN MANUAL.

3. INDUSTRIAL/COMMERCIAL ROADS SERVING SIGNIFICANT VOLUMES OF TRUCK TRAFFIC MAY REQUIRE ADDITIONAL WIDTH AND PAVEMENT DEPTH AS DETERMINED BY THE ENGINEER BASED ON DATA SUBMITTED BY THE DEVELOPER.

4. FOR ACCESS AND SUBCOLLECTOR ROADS, FILL SLOPES MAY BE 2:1 MAX. AND CUT SLOPES MAY BE 1–1/2:1 MAX.

5. REFER TO SECTION 4–01 FOR LANDSCAPING REQUIREMENTS. ALL LANDSCAPING WITHIN THE RIGHT OF WAY IS SUBJECT TO APPROVAL BY DPW.

6. AN 8 FT PARKING LANE MAY BE REQUIRED ON ONE OR BOTH SIDES, SEE STANDARD DRAWING 3–065.

7. THE R/W LINE SHALL BE AT LEAST 1.0 FEET BEHIND THE BACK OF SIDEWALK.

8. CROSS–SECTION MAY BE ALTERED WHERE A STREAM OR WETLAND BORDERS THE ROAD.

9. REFER TO TEXT SECTION 4–05 FOR SIDEWALK WIDTH REQUIREMENTS. FOR RESIDENTIAL ROADS SERVING 90 ADT OR LESS AND HAVING NO POTENTIAL FOR CONNECTIVITY, SIDEWALKS AND PLANTERS ARE NOT REQUIRED. HOWEVER, WHERE SAFE WALKING CONDITIONS FOR STUDENTS ARE IMPOSED PURSUANT TO RCW 58.17.060, 58.17.110 OR APPLICABLE COUNTY CODES, A SIDEWALK ONLY WILL BE REQUIRED ON ONE SIDE OF THE ROAD.

10. SEE STANDARD DRAWING 3–065 FOR WIDTH REQUIREMENTS. IF THE ROAD IS A DESIGNATED BIKEWAY ROUTE, BICYCLE LANES MAY BE REQUIRED IN ADDITION TO, OR IN PLACE OF, THE PARKING LANES. SEE TEXT SECTION 4–08.

SEE TEXT CHAPTERS 3 AND 4

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY:
	3–050 TYPICAL NON–ARTERIAL ROAD – URBAN AREAS	COUNTY ROAD ENGINEER — DATE 6/5/09

VOLUME (1)	PUBLIC OR PRIVATE	DESIGN SPEED (MPH)	SURFACE WIDTH (FT) (2)	SURFACE	WALKWAY	ROW WIDTH (FT)	STANDARD DRAWING
LOW VOLUME ACCESS (1–90 ADT)	PRIVATE	20	20	GRAVEL	NONE (3)	(4)	3–080
LOCAL ACCESS (1–90 ADT)	PUBLIC	25 (5)	24	PAVED	NONE (3)	44–60 (6)	3–040
SUBCOLLECTOR (91–2000 ADT)	EITHER	25 (5)	24	PAVED	5 FT SEPARATED	44–60 (6)	3–040
COLLECTOR (2001–3000 ADT)	EITHER	30	30	PAVED	5 FT SEPARATED	50–60 (6)	3–040

NOTES:

1. ADT VOLUMES ARE TYPICAL THRESHOLDS ONLY. THE COUNTY ENGINEER MAY MODIFY A ROAD STANDARD BASED ON SITE CONDITIONS, TRAFFIC VOLUME, ULTIMATE DEVELOPMENT POTENTIAL OF AN AREA OR OTHER RELEVANT FACTORS.
2. NO PARKING IS ALLOWED.
3. A WALKWAY IS NOT TYPICALLY REQUIRED FOR ACCESS ROADS SERVING 90 ADT OR LESS THAT HAVE NO POTENTIAL FOR CONNECTIVITY. SPECIFIC CIRCUMSTANCES WILL BE EVALUATED DURING PROJECT REVIEW.
4. MINIMUM 30 FT EASEMENT.
5. MAY BE REDUCED TO 20 MPH FOR A CUL–DE–SAC ROAD WITH NO TANGENT LONGER THAN 250 FEET OR FOR OTHER CIRCUMSTANCES APPROVED BY THE COUNTY ENGINEER.
6. RIGHT–OF–WAY WIDTH MAY VARY DEPENDING ON LOCATION AND OWNERSHIP OF DRAINAGE AND PEDESTRIAN FACILITIES.

SNOHOMISH COUNTY PUBLIC WORKS

3–060 ROAD STANDARDS – NON–ARTERIALS (RURAL)

APPROVED BY: _____ 4/6/09

COUNTY ROAD ENGINEER DATE

NOTES:

1. ROAD STANDARDS BASED ON "RESIDENTIAL STREETS," 3RD EDITION, PUBLISHED JOINTLY BY THE AMERICAN SOCIETY OF CIVIL ENGINEERS, THE NATIONAL ASSOCIATION OF HOME BUILDERS AND THE URBAN LAND INSTITUTE.
2. SEE EDDS SECTION 3-02.B FOR DESCRIPTION OF NON-ARTERIAL ROAD CLASSIFICATIONS.
3. PARKING RESTRICTED TO ONE SIDE.
4. MAY BE REDUCED UPON APPROVAL OF THE ENGINEER. REFER TO SECTION 3-06.
5. BICYCLE LANES MAY BE REQUIRED ON ROADS THAT ARE DESIGNATED BIKEWAY ROUTES. PAVEMENT AND R/W WIDTH SHALL BE WIDENED AS NECESSARY. SEE TEXT SECTION 4-08.
6. RIGHT OF WAY WIDTH MAY VARY. SEE TEXT SECTION 3-03B.
7. FOR RESIDENTIAL ROADS SERVING 90 ADT OR LESS AND HAVING NO POTENTIAL FOR CONNECTIVITY, SIDEWALKS AND PLANTERS ARE NOT REQUIRED. HOWEVER, WHERE SAFE WALKING CONDITIONS FOR STUDENTS ARE IMPOSED PURSUANT TO RCW 58.17.060, 58.17.110 OR APPLICABLE COUNTY CODES, A SIDEWALK ONLY WILL BE REQUIRED ON ONE SIDE OF THE ROAD

SEE TEXT CHAPTER 3

PUBLIC AND PRIVATE ROAD STANDARD – URBAN

(2) ROAD CLASSIFICATION	DESIGN SPEED (MPH)	PAVEMENT WIDTH	TRAVEL LANES	PARKING LANE	PLANTER WIDTH	SIDEWALK WIDTH	(5)(6) R/W WIDTH	SEE STD DRAWING
LOCAL ACCESS	25 (4)	24'	2x12'	NONE	5' MIN.	5' MIN. (7)	47'-51'	3-050
RESIDENTIAL	25 (4)	28'	2x10'	1x8' (3)	5' MIN. (7)	5' MIN.	51'-55'	3-050
COLLECTOR	30 (4)	36'	2x10'	2x8'	5' MIN.	5' MIN.	59'-63'	3-050

SNOHOMISH COUNTY PUBLIC WORKS

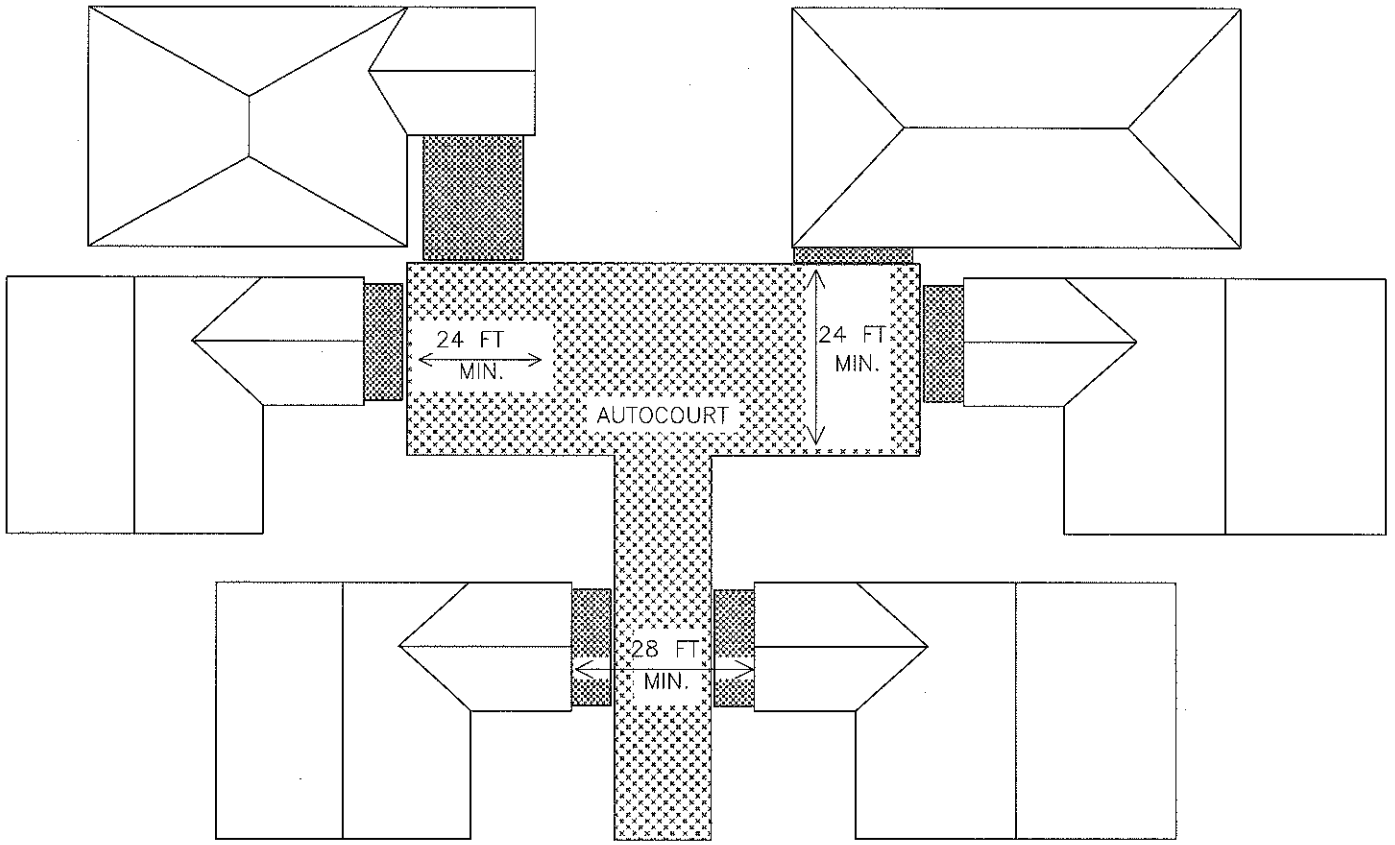
3-065 | ROAD STANDARDS – NON-ARTERIALS (URBAN)

APPROVED BY:

COUNTY ROAD ENGINEER

6/5/09

DATE

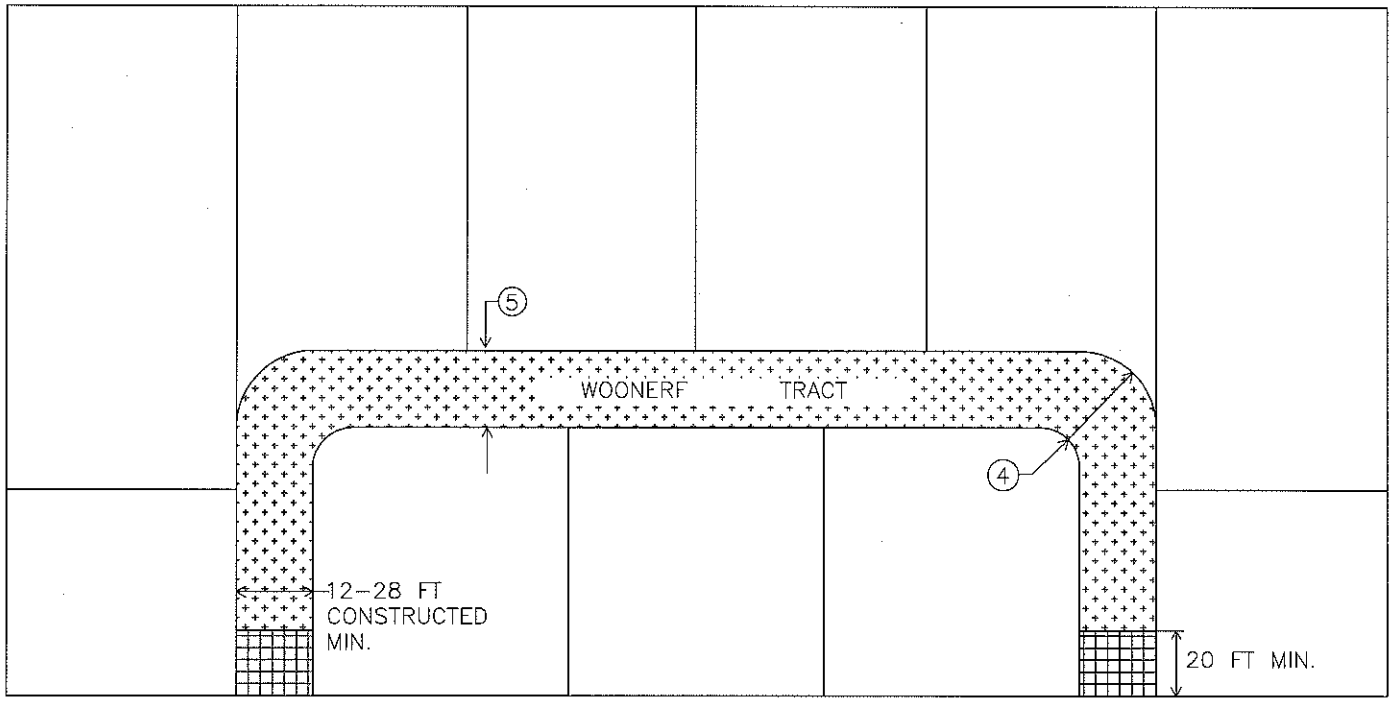


NTS

NOTES:

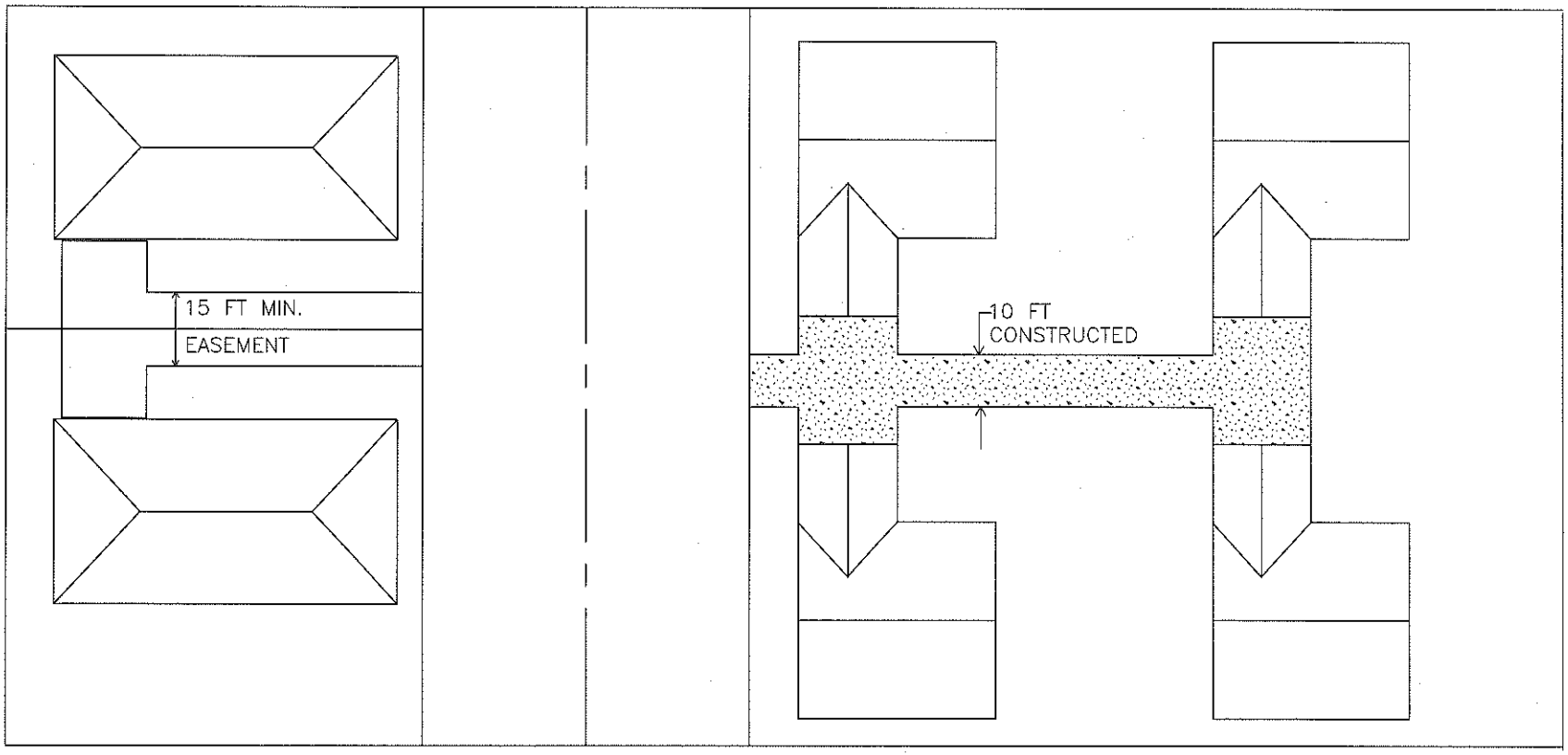
1. SEE EDDS SECTION 3-05.E FOR DESIGN DETAILS.
2. SPECIAL SURFACING MATERIAL REQUIRED. ROAD SECTION DEPENDS ON FIRE LANE DESIGNATION.
3. MAXIMUM LENGTH 150 FT. MINIMUM CONSTRUCTED WIDTH 12 FT SUBJECT TO EDDS 3-05.E CRITERIA.
4. AUTO COURT SHALL BE LOCATED ENTIRELY WITHIN TRACT OR EASEMENT UNLESS DEVELOPMENT IS ONE LOT (COMMERCIAL, MULTI-FAMILY OR SFDU).
5. AUTO COURT SHALL PROVIDE MIN. 24 FT BACKUP DISTANCE FROM END OF ANY GARAGE, DRIVEWAY APRON OR PARKING AREA BORDERING THE AUTO COURT. MINIMUM SEPARATION BETWEEN OPPOSING GARAGE DOORS IS 28 FT.

SNOHOMISH COUNTY PUBLIC WORKS		APPROVED BY:
3-066	AUTO COURT	COUNTY ROAD ENGINEER — DATE 6/5/09



NOTES:
1. SEE EDDS SECTION 3–05.F FOR DESIGN DETAILS.
2. SPECIAL SURFACING MATERIAL REQUIRED. ROAD SECTION DEPENDS ON FIRE LANE DESIGNATION.
3. LENGTH LIMITED TO SERVE 150 ADT MAX. MINIMUM CONSTRUCTED WIDTH 12 FT SUBJECT TO EDDS 3–05.F CRITERIA.
4. IF A DESIGNATED FIRE LANE, MINIMUM CURVE RADII ARE 20 FT (INTERIOR) AND 40 FT (EXTERIOR).
5. WOONERF SHALL BE LOCATED ENTIRELY WITHIN TRACT OR EASEMENT UNLESS DEVELOPMENT IS ON LOT (COMMERCIAL, MULTI–FAMILY OR SFDU.)
6. TRAFFIC CALMING MEASURES WITH ILLUMINATION REQUIRED IF A TANGENT SECTION EXCEEDS 300 FT,

SNOHOMISH COUNTY PUBLIC WORKS		APPROVED BY:
3–067	WOONERF	COUNTY ROAD ENGINEER — DATE 6/5/09



NOTES:

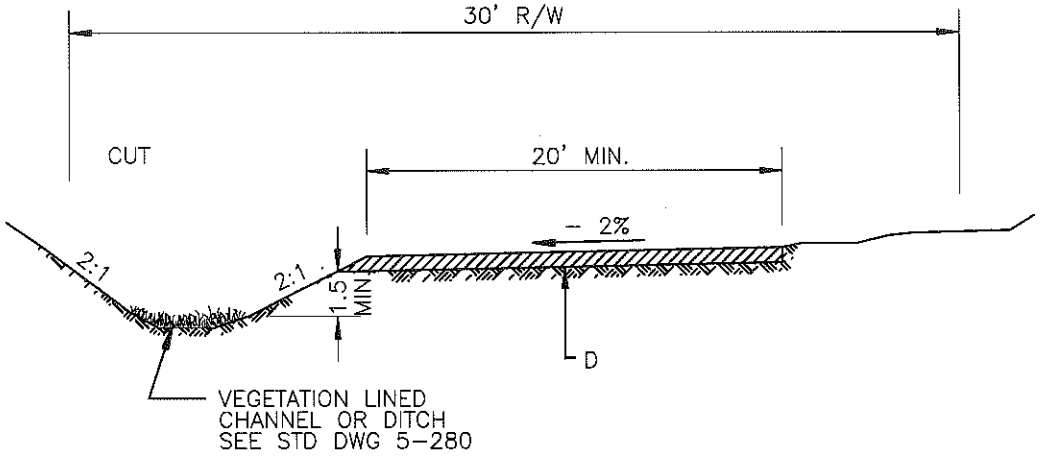
1. SEE EDDS SECTION 3-05.G FOR DESIGN DETAILS. GENERAL DRIVEWAY STANDARDS ARE IN CHAPTER 2. DRIVEWAY SECTIONS WITHIN PUBLIC RIGHT-OF-WAY SHALL BE ASPHALT OR CONCRETE.
2. SHARED DRIVEWAYS SHALL SERVE NO MORE THAN 2 LOTS (MAY BE DUPLEX LOTS). COMMON DRIVEWAYS SHALL SERVE NO MORE THAN 4 DWELLING UNITS EACH ON ONE LOT (MULTI-FAMILY OR SFDU).
3. SHALL HAVE A MINIMUM CONSTRUCTED WIDTH OF 10 FT.
4. SHARED DRIVEWAYS SHALL HAVE A MIN. 15 FT SHARED DRIVEWAY ACCESS EASEMENT AND A MAINTENANCE DECLARATION RECORDED WITH THE COUNTY AUDITOR. COMMON DRIVEWAYS SHALL BE MAINTAINED BY THE COMMON USERS.
5. PEDESTRIAN FACILITIES ARE NOT REQUIRED WITH DRIVEWAYS UNLESS NEEDED FOR THE INTERNAL PEDESTRIAN FACILITY NETWORK. REFER TO SCC 30.24.080.

SNOHOMISH COUNTY PUBLIC WORKS		APPROVED BY:
3-068	SHARED AND COMMON DRIVEWAYS	COUNTY ROAD ENGINEER — DATE 6/5/09

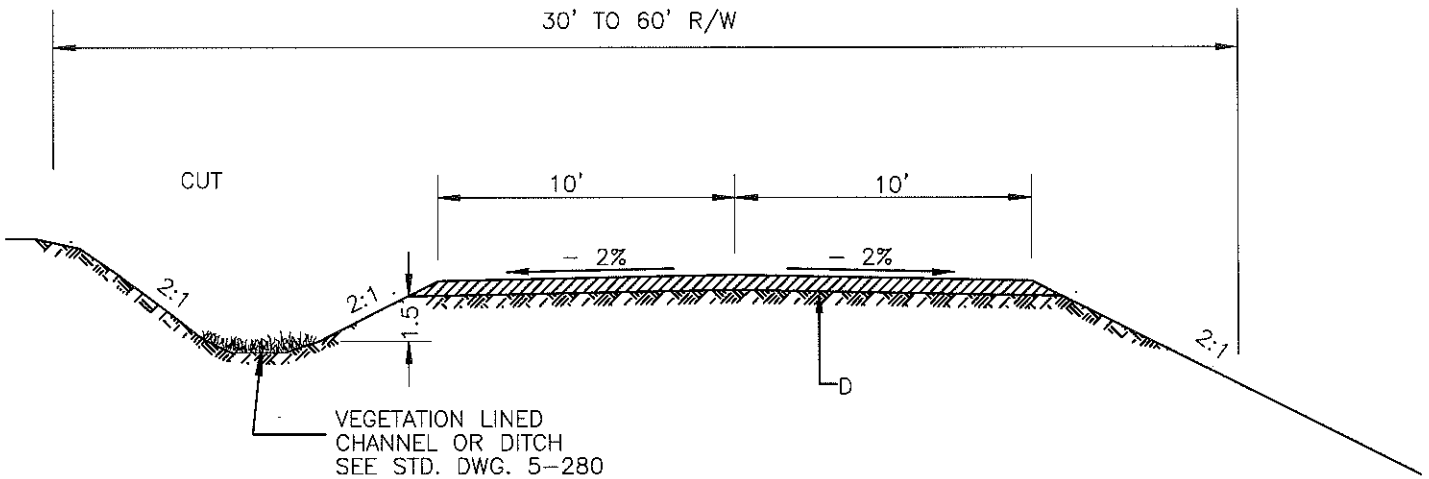
NOTES:

1. REFER TO STANDARD DRAWING 3-075 FOR SECTIONS A AND B, AND FOR SURFACING DEPTH D.

SEE TEXT SECTION 3-05



SECTION A



SECTION B

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	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven E Thorsen 4-17-03
3-070	TRAIL ACCESS PERMIT ROAD	COUNTY ROAD ENGINEER DATE

# LOTS	R/W	SECTION	
1	LESS THAN 20'		INADEQUATE R/W WIDTH
	20' – 30'	SECTION A	6" GRAVEL BORROW OR PIT–RUN GRAVEL
	31' TO 60'	SECTION B	6" GRAVEL BORROW OR PIT–RUN GRAVEL
2	LESS THAN 30'	––	INADEQUATE R/W WIDTH
	31' TO 60'	SECTION B	6" GRAVEL BORROW OR PIT–RUN GRAVEL PLUS 2 1/2" CSBC GRAVEL PLUS 1 1/2" CSTC GRAVEL AND PAVED APRON
3	LESS THAN 30'	––	INADEQUATE R/W WIDTH
	31' TO 60'	SECTION B	6" GRAVEL BORROW OR PIT–RUN GRAVEL PLUS 2 1/2" CSBC GRAVEL PLUS 1 1/2" CSTC GRAVEL AND PAVED APRON
4 (URBAN)	LESS THAN 30'	––	INADEQUATE R/W WIDTH
4 – 8 (RURAL)	31' TO 60'	SECTION B	6" GRAVEL BORROW OR PIT–RUN GRAVEL PLUS 2 1/2" CSBC GRAVEL PLUS 1 1/2" CSTC GRAVEL AND PAVED APRON
5+ (URBAN)	ROAD IMPROVEMENT REQUIREMENTS DETERMINED BY PUBLIC WORKS.		
9+ (RURAL)			

NOTES:

1. SEE STANDARD DRAWING 3–070 FOR ROADWAY SECTIONS.

2. APPLIES TO EXISTING LOTS CREATED PRIOR TO JULY 1, 1992. NUMBER OF LOTS REFERS TO THE TOTAL NUMBER OF EXISTING LOTS THAT WILL RECEIVE ACCESS VIA THE COUNTY R/W THROUGH THE TRAIL PERMIT PROCESS.

3. ANY PROPOSED ACCESS VIA COUNTY R/W TO ANY LOT SUBDIVIDED ON OR AFTER JULY 1, 1992 SHALL BE EVALUATED ON A CASE BY CASE BASIS BY PUBLIC WORKS.

SEE TEXT SECTION 3–05

D.L.D.: 3/17/00

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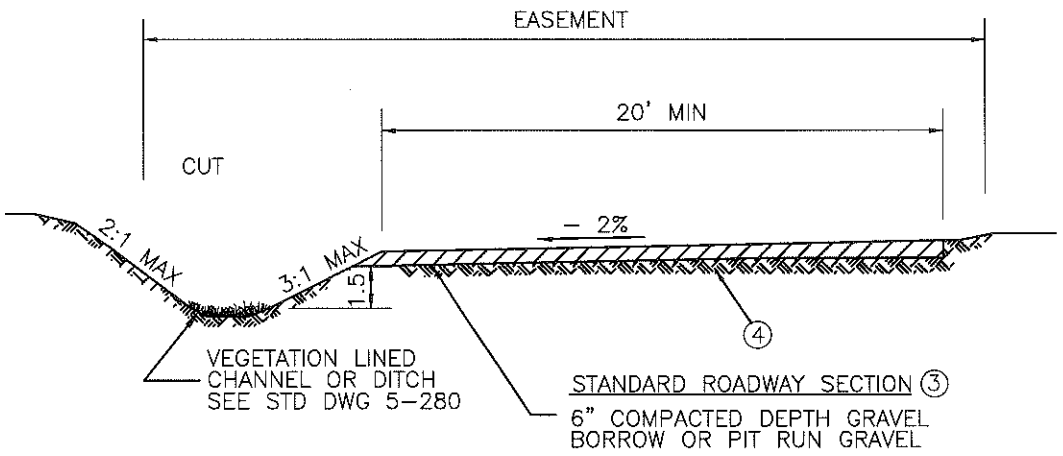
SNOHOMISH COUNTY PUBLIC WORKS

3–075 TRAIL ACCESS PERMIT ROAD DIMENSIONS

APPROVED BY: Steven E Thomas 2-7-03

COUNTY ROAD ENGINEER DATE

90 ADT OR LESS



NOTES:

1. ROAD SHALL BE PRIVATELY MAINTAINED BY A HOMEOWNERS ASSOCIATION.

2. REFER TO STD DWG 3–060 FOR GEOMETRIC STANDARDS.

3. ROADWAY SECTION MAY BE ADJUSTED WITH THE APPROVAL OF THE ENGINEER UPON SUBMISSION OF SUBSTANTIATING ENGINEERING DATA (SOILS TESTS, ETC.)

4. SUBGRADE SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH SECTION 2–03.3(14)C OF THE WSDOT/APWA SPECIFICATIONS (METHOD B). SURFACING MATERIALS SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY (MODIFIED PROCTOR).

5. PRIVATE ROAD INTERSECTIONS SHALL COMPLY WITH STD DWG 3–100.

SEE TEXT SECTION 3–05

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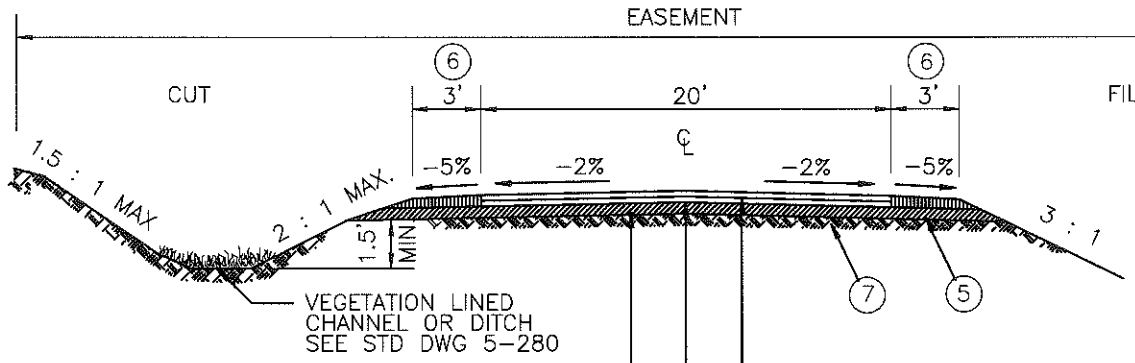
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven C Thomas 4-17-03
	3–080 PRIVATE LOW VOLUME ACCESS ROAD (RURAL)	COUNTY ROAD ENGINEER DATE

91 TO 1000 ADT



STANDARD ROADWAY SECTION (4)

2" COMP. DEPTH CLASS "B" ACP

2" COMP. DEPTH CSTC

4" COMP. DEPTH GRAVEL BORROW (SEE TEXT SECTION 4-09)

CRUSHED SURFACING TOP COURSE

NOTES:

1. ROAD SHALL BE PRIVATELY MAINTAINED BY A HOMEOWNERS ASSOCIATION.

2. REFER TO STD DWG 3-060 FOR GEOMETRIC STANDARDS.

3. PRIVATE ROAD INTERSECTIONS SHALL COMPLY WITH STD DWG 3-100.

4. ROADWAY SECTION MAY BE ADJUSTED WITH THE APPROVAL OF THE ENGINEER UPON SUBMISSION OF SUBSTANTIATING ENGINEERING DATA (SOILS TESTS, ETC.)

5. AT THE ENGINEER'S DISCRETION, THE 4 INCH GRAVEL BORROW LAYER MAY BE ELIMINATED OR SUBSTITUTED WITH A LESSER THICKNESS OF GRAVEL BORROW OR EQUIVALENT MATERIAL WHEN SUBGRADE CONDITIONS WARRANT, AS SUBSTANTIATED BY MATERIALS TESTING.

6. A WALKWAY WILL BE REQUIRED WHERE THE PRIVATE ROAD ADT IS PROJECTED TO BE 250 OR GREATER. THE WALKWAY SHALL CONSIST OF A 7 (SEVEN) FT. PAVED SHOULDER ON ONE SIDE OF THE ROAD, DELINEATED BY A FOUR INCH WHITE PAINTED STRIPE. A 3 FT. PAVED SHOULDER SHALL BE PROVIDED ON THE OTHER SIDE.

7. SUBGRADE SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH SECTION 2-03.3(14)C OF THE WSDOT/APWA SPECIFICATIONS (METHOD B). SURFACING MATERIALS SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D1557.

SEE TEXT SECTION 3-05

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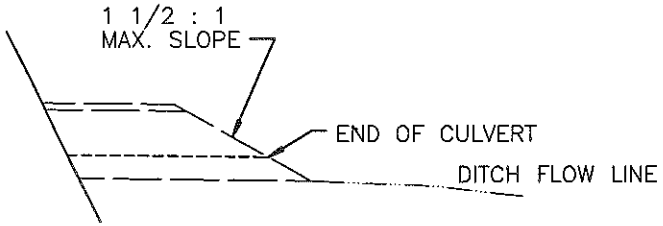
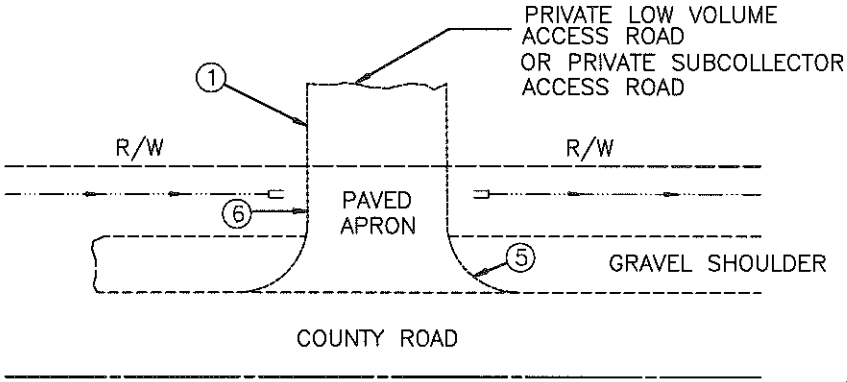
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steve E Thomas 4-1-03
	3-090 PRIVATE SUBCOLLECTOR ROAD (RURAL)	COUNTY ROAD ENGINEER DATE



DETAIL FOR SECTION A
② ③ ④



SECTION A
INTERSECTION WITH COUNTY ROAD

NOTES:

1. ALL SURFACE DRAINAGE FROM THE PRIVATE ROAD MUST BE DIRECTED FROM THE ROAD TO THE THE OPEN DITCH. NO SURFACE DRAINAGE SHALL FLOW ONTO THE COUNTY ROAD.

2. CULVERT PIPE SHALL BE 12 INCHES MINIMUM DIAMETER AND LARGER IF DRAINAGE REQUIRES.

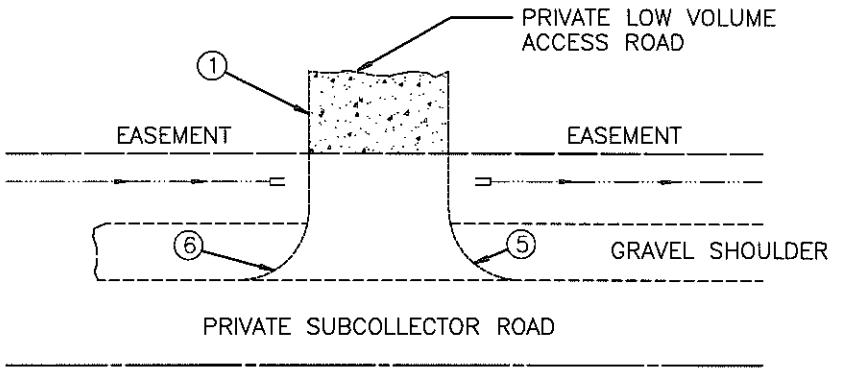
3. COVER DEPTHS LESS THAN 12" REQUIRE APPROVAL BY THE ENGINEER.

4. A DRIVEWAY CULVERT HEADWALL, SUBJECT TO APPROVAL BY THE ENGINEER, MAY BE USED IN LIEU OF THE 1–1/2 : 1 SIDESLOPE.

5. MINIMUM RADII VARY. SEE STANDARD DRAWING 2–010.

6. A PAVED APRON IS REQUIRED AT ALL INTERSECTIONS WITH COUNTY ROADS. PAVED APRON SECTION SHALL BE EQUIVALENT TO STANDARD ROADWAY SECTION FOR PRIVATE SUBCOLLECTOR ROAD (SEE STD DWG 3–090) OR BETTER.

7. ADDITIONAL PAVEMENT THICKNESS MAY BE REQUIRED FOR HEAVY VEHICLE TRAFFIC.

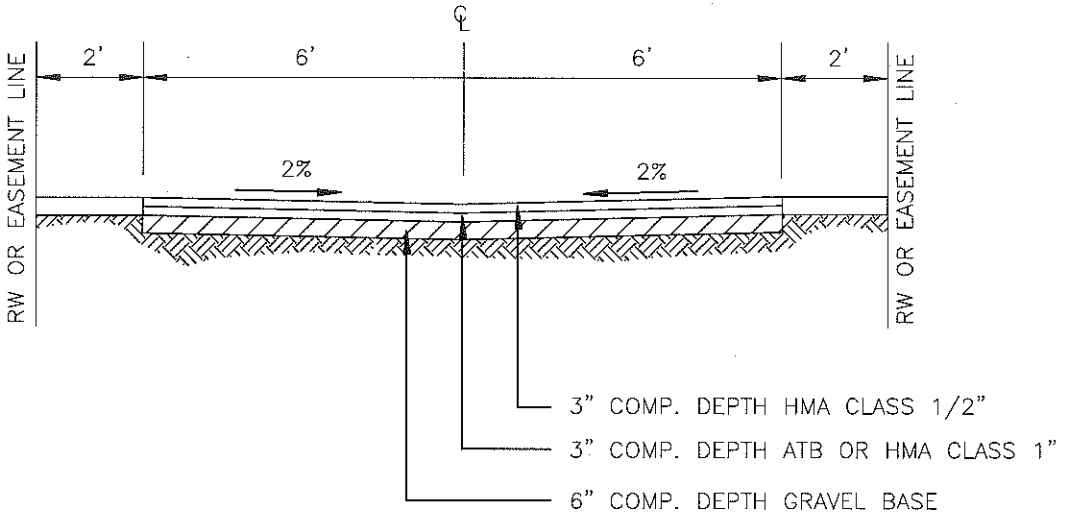


SECTION B
INTERSECTION WITH PRIVATE SUBCOLLECTOR ACCESS ROAD

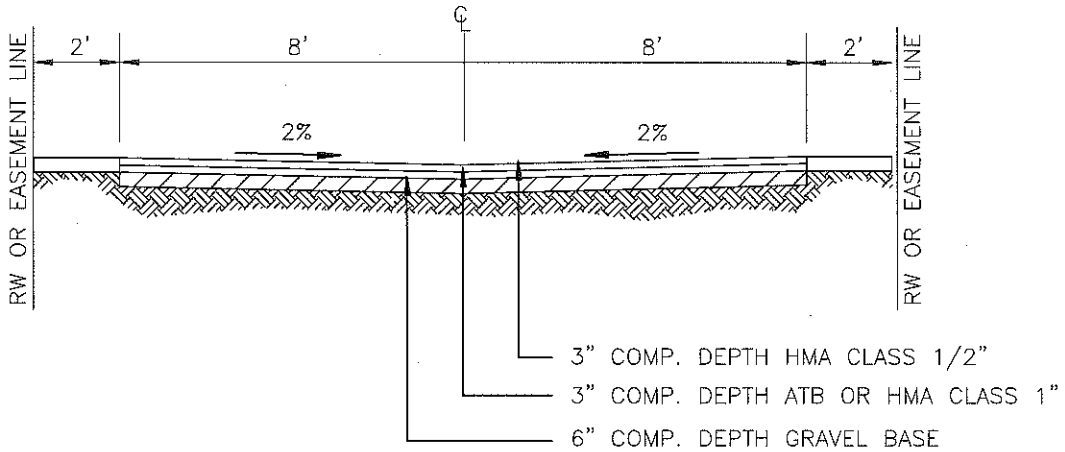
SEE TEXT SECTION 3

D.L.D.: 3/20/00
S:\TES\COMMON\EDDS\EDDS DRAWINGS\Ch3\3100.dwg

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steve E Thomas 2-7-03
	3–100 PRIVATE ROAD INTERSECTIONS (RURAL)	COUNTY ROAD ENGINEER DATE

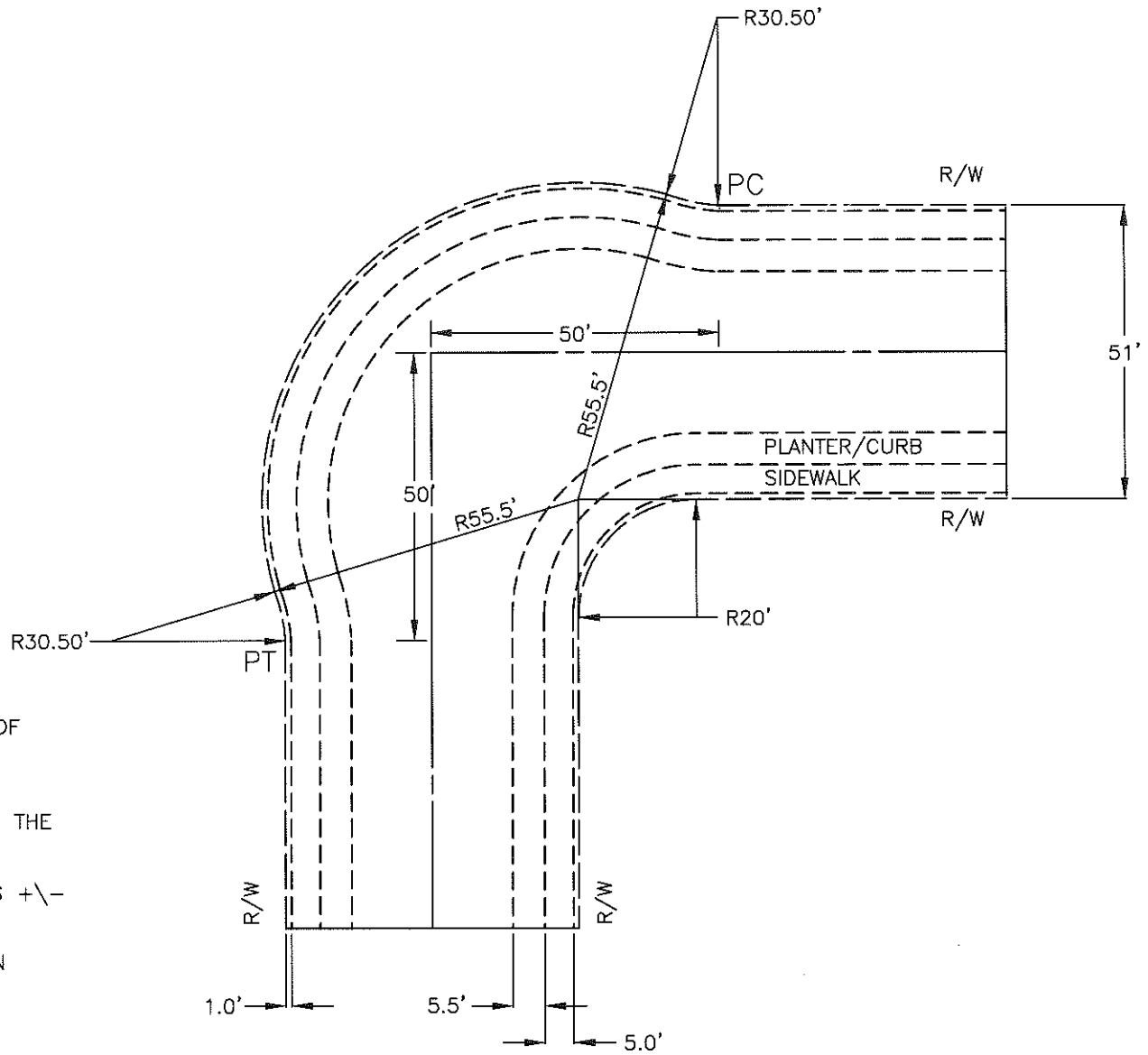


RESIDENTIAL



COMMERCIAL

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY:	
3–102	ALLEYS–RESIDENTIAL & COMMERCIAL	COUNTY ROAD ENGINEER	6/5/09 DATE



NOTES:

1. INTERSECTION BULBS MAY BE USED IN LIEU OF HORIZONTAL CURVES FOR CERTAIN LOW-SPEED DESIGNS. REFER TO TEXT TABLE 3-4.

2. A MINIMUM 50' TANGENT IS REQUIRED FROM THE POINT OF INTERSECTION OF THE CENTERLINES.

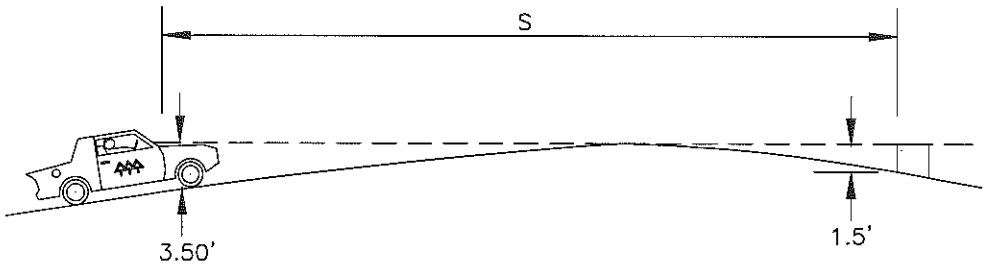
3. INTERSECTION ANGLE SHALL BE 90 DEGREES +\- 10 DEGREES.

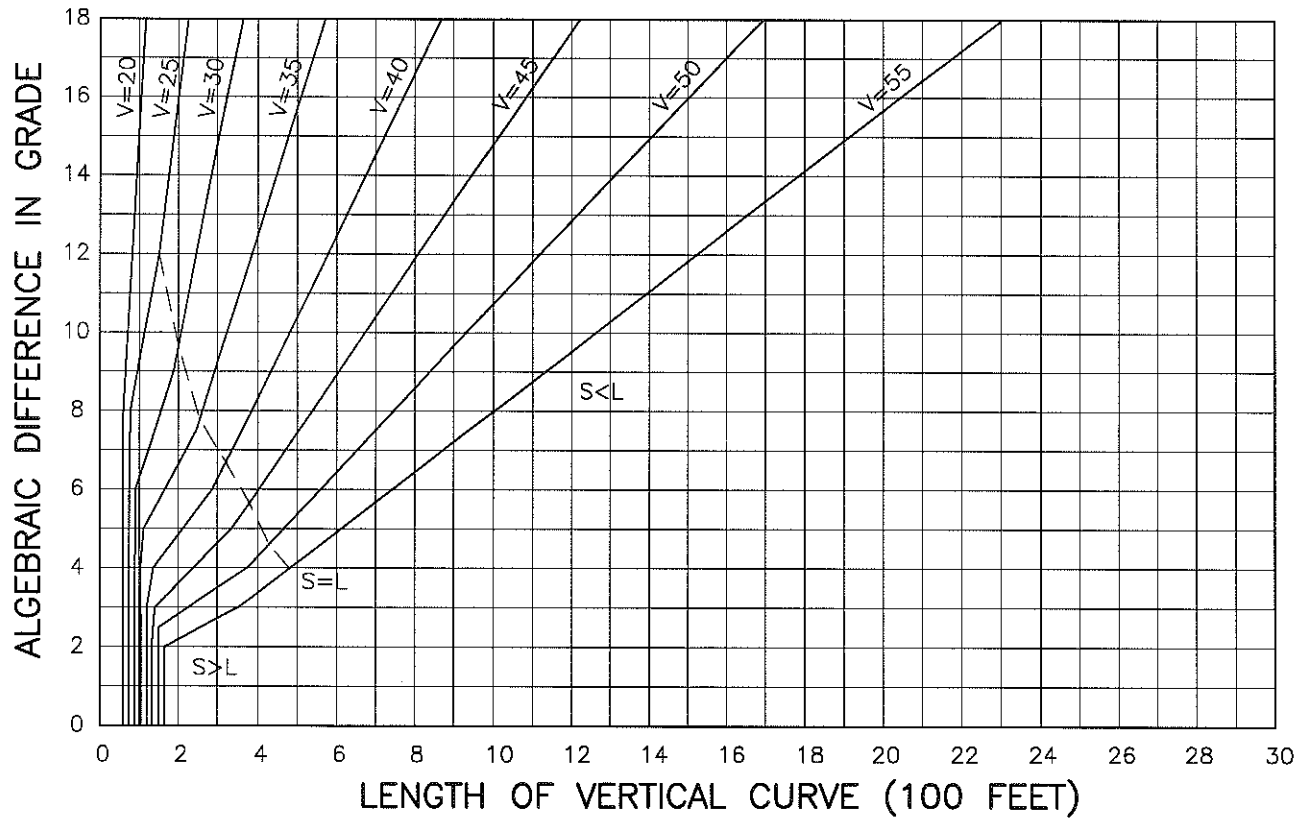
4. RADII SHOWN APPLY FOR A 51-FOOT URBAN NON-ARTERIAL R/W.

SEE TEXT SECTION 3-06.

S:\TES\COMMON\EDDS\EDDS DRAWINGS\Ch3\3105.dwg

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steve Thomas 2-25-03
	3-105 90° INTERSECTION ELBOW	COUNTY ROAD ENGINEER DATE





WHEN S > L	WHEN S < L
$L = 2S - \frac{1917}{A}$	$L = \frac{AS^2}{1917}$

L = CURVE LENGTH (FEET)
A = ALGEBRAIC GRADE DIFFERENCE (PERCENT)
S = SIGHT DISTANCE (FEET)

DESIGN SPEED (MPH)	DESIRABLE MINIMUM STOPPING DISTANCE (FEET)	MINIMUM LENGTH (FEET)
20	115	60
25	155	75
30	200	90
35	250	105
40	305	120
45	360	135
50	425	150
55	495	165

NOTES:

1. L=MINIMUM LENGTH OF CURVE BASED ON MINIMUM STOPPING SIGHT DISTANCE.

SEE TEXT CHAPTER 3

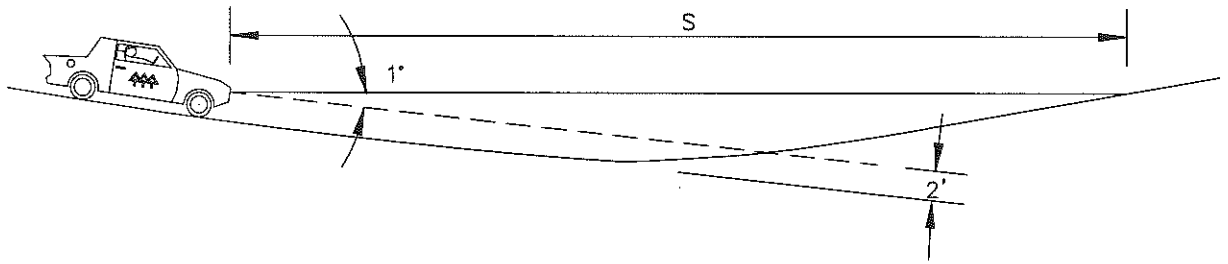
S:\TES\LANDUSE\EDDS\EDDS DRAWINGS\Ch3\3110.dwg

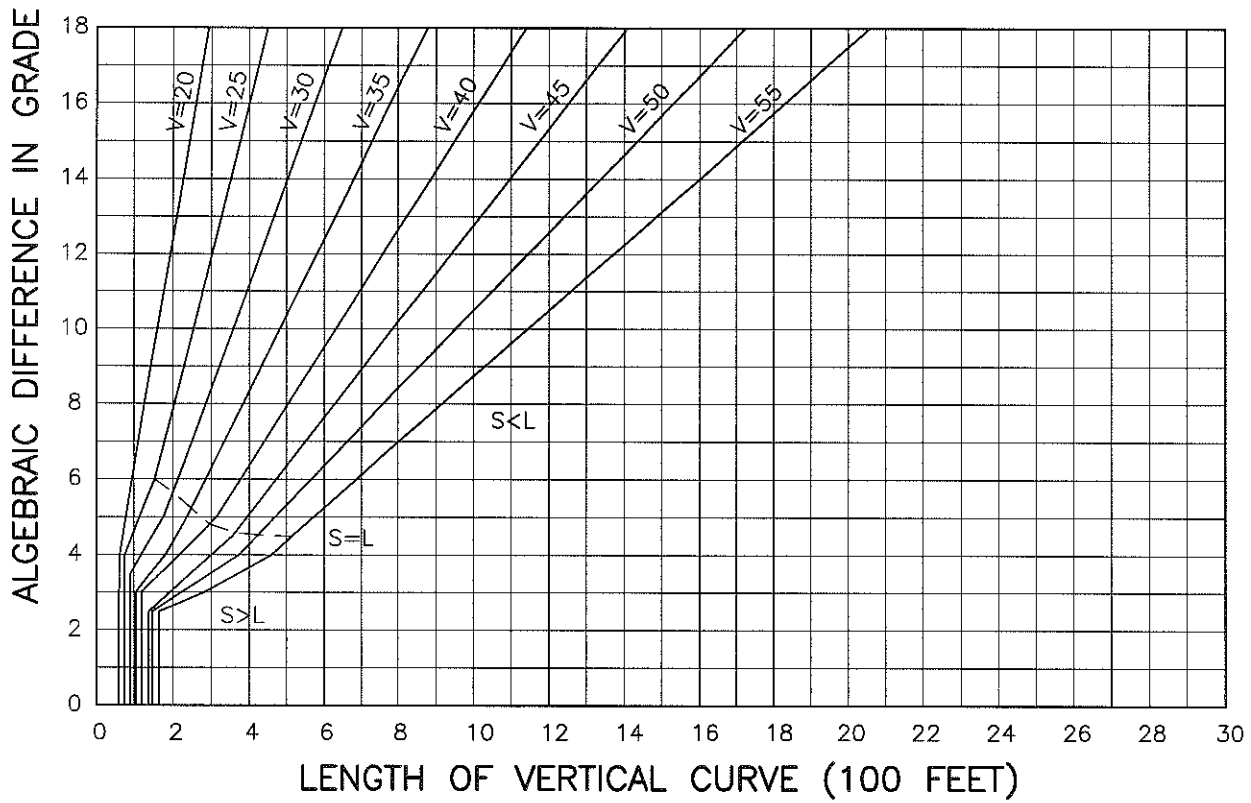
SNOHOMISH COUNTY PUBLIC WORKS

3–110 CREST VERTICAL CURVES

APPROVED BY: Steve E Thomas 10-1-09

COUNTY ROAD ENGINEER DATE





INCREASE FOR DOWNGRADES:
SEE TABLE 3-7 IN TEXT

WHEN S > L	WHEN S < L
$L = 2S - \frac{400+3.5S}{A}$	$L = \frac{AS^2}{400+3.5S}$
L = CURVE LENGTH (FEET) A = ALGEBRAIC GRADE DIFFERENCE (PERCENT) S = SIGHT DISTANCE (FEET)	

DESIGN SPEED (MPH)	DESIRABLE MINIMUM STOPPING DISTANCE (FEET)	MINIMUM LENGTH (FEET)
20	115	60
25	155	75
30	200	90
35	250	105
40	305	120
45	360	135
50	425	150
55	495	165

NOTES:

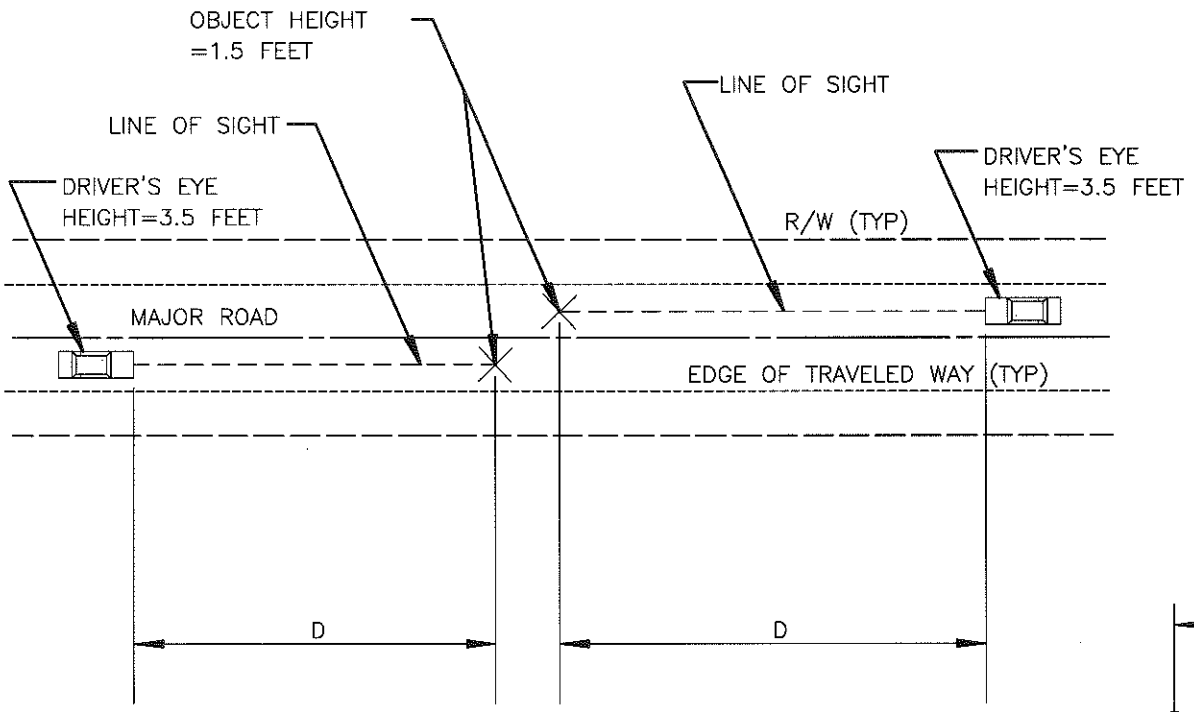
1. L=MINIMUM LENGTH OF CURVE BASED ON MINIMUM STOPPING SIGHT DISTANCE.

SEE TEXT CHAPTER 3

SNOHOMISH COUNTY PUBLIC WORKS

3-120 SAG VERTICAL CURVES

APPROVED BY:
James E Thorsen 10-1-04
COUNTY ROAD ENGINEER DATE

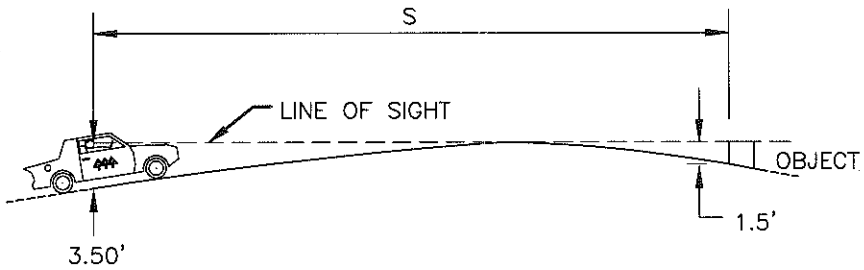


NOTES:

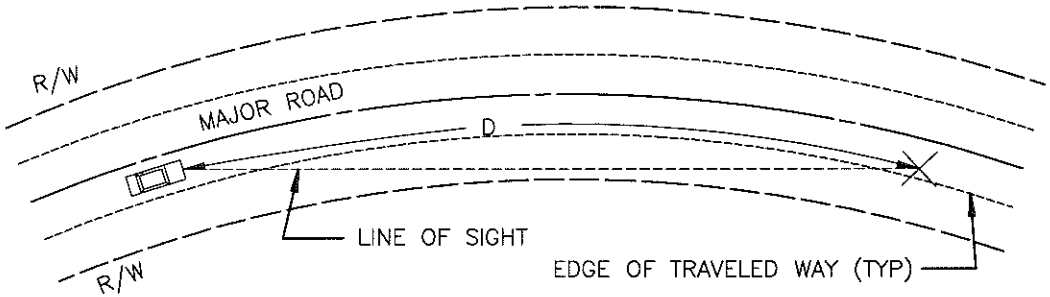
1. CREST VERTICAL CURVE CONDITION SHOWN. FOR EVALUATION OF CREST VERTICAL CURVE ALIGNMENT FOR STOPPING SIGHT DISTANCE REQUIREMENTS, REFER TO STD DWG 3-110. FOR EVALUATION OF SAG VERTICAL CURVE ALIGNMENT FOR STOPPING SIGHT DISTANCE REQUIREMENTS, REFER TO STD DWG 3-120.

SEE TEXT SECTION 3-07 & 3-08.

D=STOPPING SIGHT DISTANCE



STOPPING SIGHT DISTANCE



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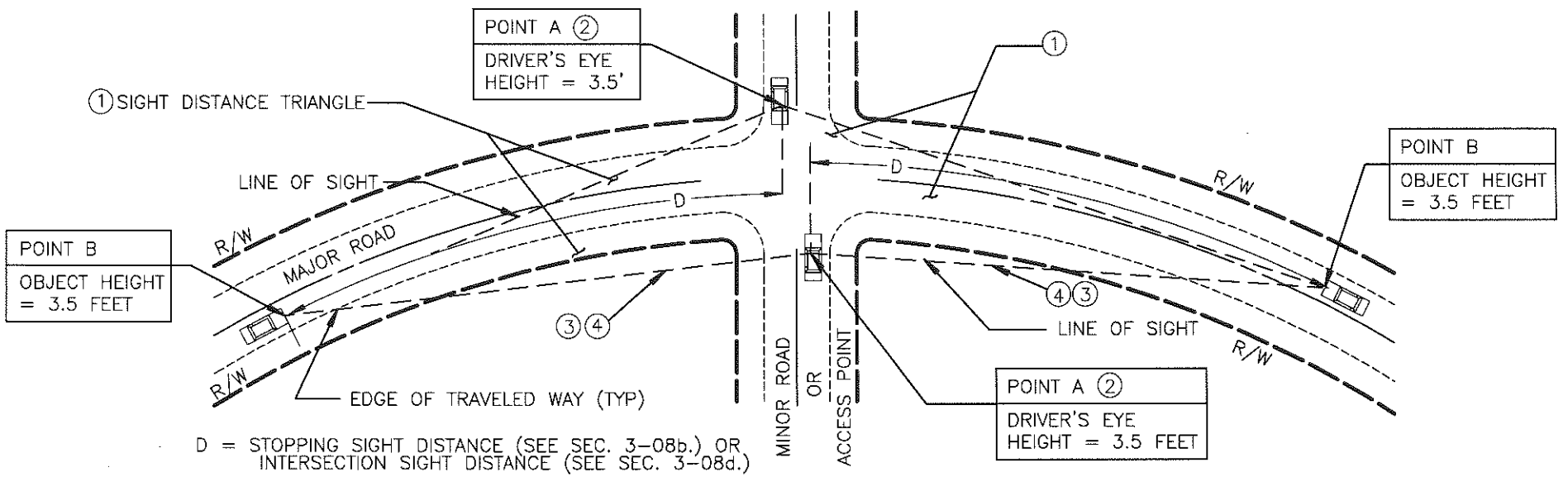
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven E Thomas 2-25-03
	3-130 STOPPING SIGHT DISTANCE	COUNTY ROAD ENGINEER DATE



NOTES:

1. AT ANY INTERSECTION OR ACCESS POINT CONNECTION, THERE MUST EXIST CLEAR SIGHT TRIANGLES, FREE OF SIGHT OBSCURING OBJECTS. UNOBSTRUCTED LINES OF SIGHT MUST BE PROVIDED FROM A POINT ON THE MINOR ROAD 15 FEET BEHIND THE EDGE OF TRAVELED WAY (POINT A) TO ALL POINTS IN THE TRAVELED WAY INCLUDED IN THE CLEAR SIGHT TRIANGLES. THE BASE OF EACH CLEAR SIGHT TRIANGLE SHALL BE AT LEAST EQUAL TO THE STOPPING SIGHT DISTANCE D.

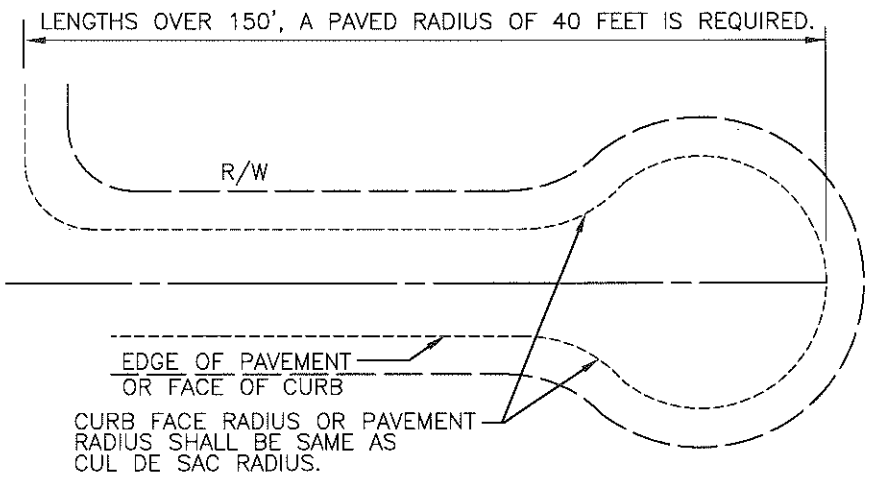
2. THE DRIVER'S EYE TO DETERMINE LINE OF SIGHT AT INTERSECTIONS IS 3.5 FEET ABOVE THE MINOR ROAD PAVEMENT, WITH AN OBJECT HEIGHT OF 3.5 FEET ABOVE THE MAJOR ROAD PAVEMENT.

3. THE AREA WITHIN THE CLEAR SIGHT TRIANGLE MUST BE FREE FROM ANY SIGHT OBSCURING OBJECTS. GROUND SHALL BE REGRADED AND VEGETATION TRIMMED OR REMOVED SO THAT NO OBJECT PROTRUDES CLOSER THAN 18 INCHES TO THE LINE OF SIGHT BETWEEN THE MINOR ROAD/ACCESS POINT AND THE MAJOR ROAD.

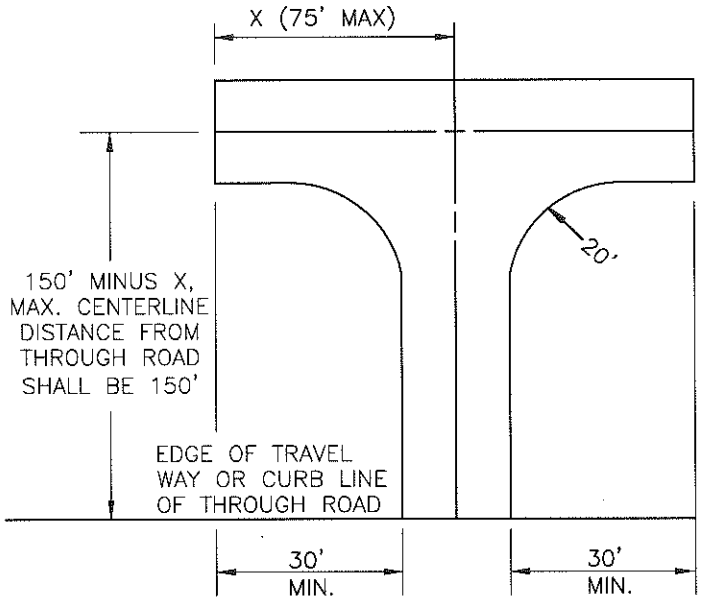
4. AREA WITHIN THE CLEAR SIGHT TRIANGLE BUT OUTSIDE OF EXISTING PUBLIC RIGHT-OF-WAY SHALL EITHER BE ACQUIRED AS NEW PUBLIC RIGHT-OF-WAY OR A SIGHT DISTANCE EASEMENT RECORDED FOR FUTURE COUNTY MAINTENANCE.

SEE TEXT SECTION 3-08.

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven C. Thomsen 10-1-04
	3-140 CLEAR SIGHT TRIANGLES	COUNTY ROAD ENGINEER DATE



CUL–DE–SAC (PERMANENT)



NOTES:

1. ROAD WIDTH AND PAVEMENT SECTION SHALL BE AS SPECIFIED FOR EACH CLASS OF ROAD. REFER TO SECTION 3 AND STANDARD DRAWINGS 3–010 THROUGH 3–060.

2. LENGTH OF ROAD END IS MEASURED FROM THE FACE OF CURB LINE (EXTENDED) OF THE PREVIOUS INTERSECTING ROAD.

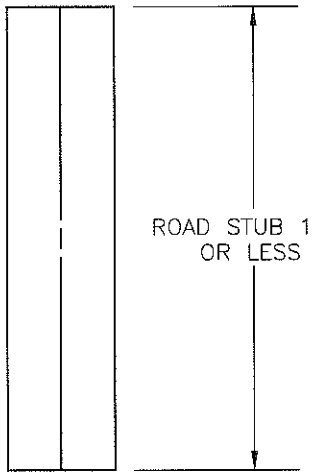
3. NO DRIVE THROUGH CUL DE SACS ARE ALLOWED.

4. HAMMERHEAD TURNAROUNDS ARE ALLOWED ONLY UPON APPROVAL OF THE FIRE MARSHAL AS A TEMPORARY TURNAROUND.

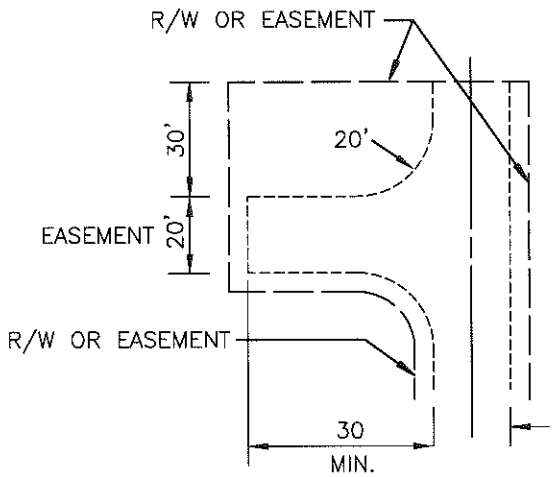
5. PERMANENT ROAD ENDS SHALL INCLUDE PEDESTRIAN FACILITIES IN URBAN AREAS OR WHERE THESE FACILITIES ARE PROVIDED ALONG THE ROAD LEADING TO THE PERMANENT ROAD END. PEDESTRIAN FACILITIES ARE NOT REQUIRED ALONG ROADS 150 FEET OR LESS IN LENGTH.

6. ROADS 150 FEET OR LESS MAY END IN A ROAD STUB. HOWEVER, IF FOUR OR MORE ACCESS POINTS ARE LOCATED WITHIN 50 FEET OF THE ROAD END, THEN A CUL–DE–SAC WITH A MINIMUM PAVED RADIUS OF 30 FEET IS REQUIRED.

7. PLANTER STRIPS MAY BE INSTALLED, BUT ARE NOT REQUIRED, AROUND PERMANENT OR TEMPORARY ROAD ENDS. SEE TEXT SECTION 3–10

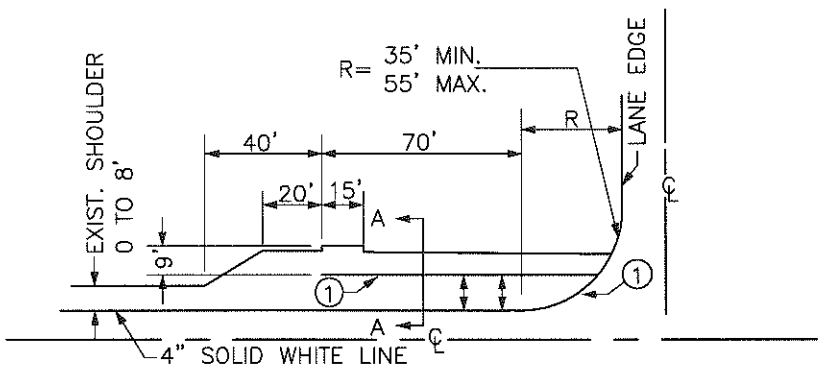


ROAD STUB

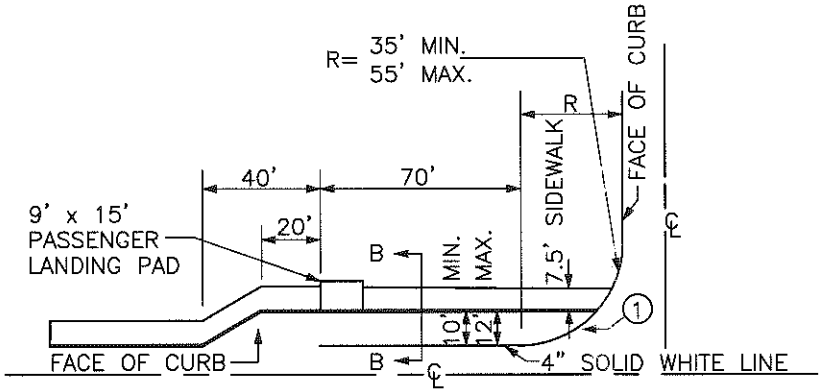


HAMMERHEAD (TEMPORARY)

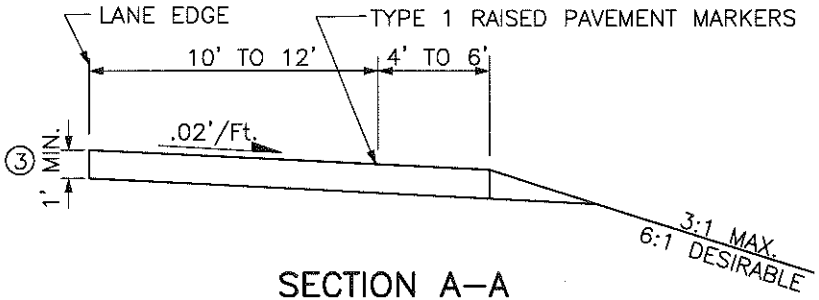
SNOHOMISH COUNTY PUBLIC WORKS		APPROVED BY: Steven E Thorsen 10-1-04
3–150	ROAD ENDS	COUNTY ROAD ENGINEER DATE



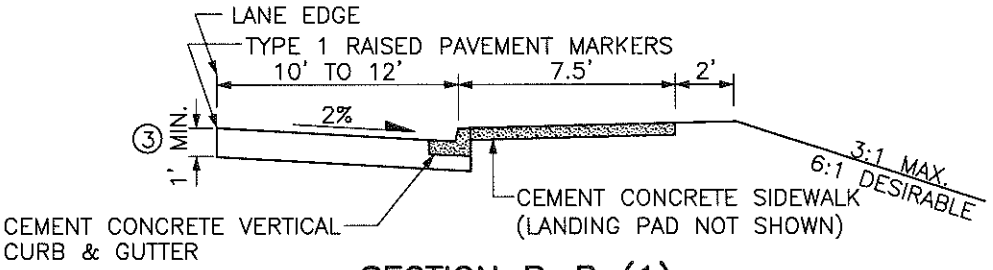
STD FARSIDE BUS PULLOUT ② (SHOULDER SECTION)



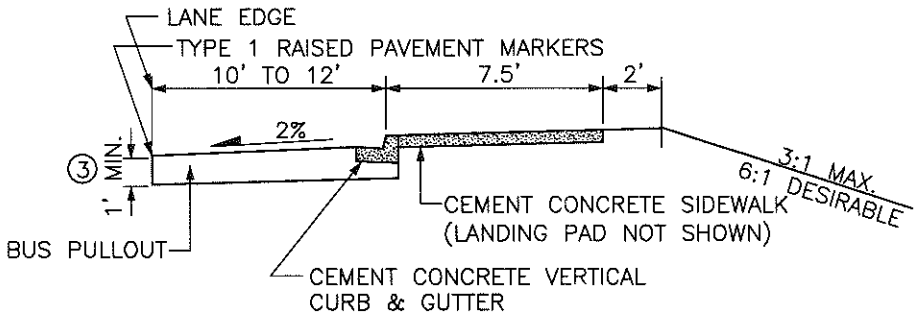
STD. FARSIDE BUS PULLOUT ② (CURB SECTION)



SECTION A–A



SECTION B–B (1)



SECTION B–B (2)

NOTES:

1. TYPE 1 RAISED PAVEMENT MARKERS, 3' O.C. SEE WSDOT/APWA SPECIFICATIONS.

2. FARSIDE BUS PULLOUTS ARE PREFERRED. FOR DESIGN GUIDANCE RELATIVE TO NEARSIDE AND MIDDLE BLOCK BUS PULLOUTS, SEE THE WSDOT DESIGN MANUAL, CHAPTER 1060.

3. SEE TEXT SECTION 3–13 AND STD DRAWINGS 3–010 THROUGH 3–065 FOR PAVEMENT SECTIONS.

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SNOHOMISH COUNTY PUBLIC WORKS		APPROVED BY: Steve E Thomas 2-28-03
3–160	BUS PULLOUTS	COUNTY ROAD ENGINEER — DATE

CHAPTER 4 STANDARD DRAWING INDEX

BOTANICAL NAME	COMMON NAME	HEIGHT + OR – 30'	10'–20' SPREAD	20'–30' SPREAD	DROUGHT TOLERANT	SEASONAL COLOR	REQUIRES MOIST SOIL	REMARKS
ACER CAMPESTRE (EVELYN)	QUEEN ELIZABETH HEDGE MAPLE	+		●	●	●		YELLOW FALL COLOR, UPRIGHT AND ROUND
ACER GRISEUM	PAPERBARK MAPLE	–	●			●	●	RED FALL COLOR, EXFOLIATING BARK
ACER PLATANOIDES (GLOBOSUM)	GLOBE NORWAY MAPLE	–	●			●		SHORT, 15' TALL, COMPACT ROUND CANOPY
ACER TRUNCATUM X A. PLATANOIDES	KEITHSFORM NORWEGIAN SUNSET MAPLE	+		●		●		FALL YELLOW/ORANGE/RED
ACER TRUNCATUM X A. PLATANOIDES	WARRENRED PACIFIC SUNSET MAPLE	–		●		●		SHORTER, MORE SPREADING THAN KEITHSFORM
CRATAEGUS X LAVALII	LAVALLE HAWTHORN	–	●			●		RED FALL LEAVES AND FRUIT
CRATAEGUS PHAENOPYRUM	WASHINGTON HAWTHORN	–	●			●		THORNY, RED FALL COLOR
KOELREUTERIA PANICULATA	GOLDENRAIN TREE	–		●	●	●		YELLOW SUMMER FLOWERS AND FALL COLOR
MAGNOLIA GRANDIFLORA	EDITH BOGUE MAGNOLIA	–	●			●	●	WHITE BLOOMS, EVERGREEN, PYRAMIDAL, SNOW RESISTANT
MALUS (TSCHONOSKII)	TSCHONOSKII CRAB APPLE	–	●			●	●	DISEASE RESISTANT, PYRAMIDAL FORM
PRUNUS X HILLIERI (SPIRE)	SPIRE CHERRY	–	●			●		NARROW, PINK BLOOMS
PYRUS CALLERYANA (CAPITAL)	CAPITAL PEAR	+	●			●		SMALL NARROW UPRIGHT FORM
PYRUS CALLERYANA (AUTUMN BLAZE)	AUTUMN BLAZE PEAR	+		●		●		ROUND FORM, RED FALL COLOR
SORBUS X HYBRIDA	OAK–LEAF MOUNTAIN ASH	–	●		●	●		RED FRUIT, RUST FALL COLOR
TILIA CORDATA (CHANCOLE)	CHANCELLOR LINDEN	–		●		●		UPRIGHT, TIGHTLY PYRAMIDAL

NOTES:

1. THESE TREES ARE SUITABLE FOR USE IN PLANTER STRIPS ALONG 2–LANE ROADS AND UNDER UTILITY LINES.

2. AVERAGE TREE SPACING: 25'–30' O.C.

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SNOHOMISH COUNTY PUBLIC WORKS

4–010 SMALL TREES 25'–35' HEIGHT

APPROVED BY:

Steven E Thomsen 2-25-03

COUNTY ROAD ENGINEER DATE

BOTANICAL NAME	COMMON NAME	HEIGHT + OR – 40'	10'–20' SPREAD	20'–30' SPREAD	30'–40' SPREAD	DROUGHT TOLERANT	SEASONAL COLOR	REQUIRES MOIST SOIL	REMARKS
ACER X FREEMANII (JEFFERSRED)	AUTUMN BLAZE MAPLE	+			●	●	●		BRILLIANT ORANGE FALL COLOR, UPRIGHT AND ROUND
ACER NIGRUM (GREENCOLUMN)	GREENCOLUMN MAPLE	+	●				●		UPRIGHT OVAL FORM, YELLOW/ORANGE FALL COLOR
ACER PLATANOIDES (COLUMNAR)	COLUMNAR NORWAY MAPLE	–	●				●		VERY NARROW, YELLOW FALL COLOR
ACER PLATANOIDES (EMERALD QUEEN)	EMERALD QUEEN MAPLE	+			●		●		DURABLE STANDARD, OVAL UPRIGHT
ACER PLATANOIDES (COLUMNARBROAD)	PARKWAY MAPLE	–		●			●		GOOD FORM, DURABLE, YELLOW FALL COLOR
ACER RUBRUM (BOWHALL)	BOWHALL MAPLE	–	●				●	●	VERY NARROW, ORANGE FALL COLOR
ACER RUBRUM (KARPICK)	KARPICK MAPLE	–	●				●	●	MEDIUM NARROW, YELLOW/ORANGE FALL COLOR
ACER RUBRUM (SCARSEN)	SCARLET SENTINEL MAPLE	–	●				●	●	UPRIGHT BRANCHING HABIT
AESCULUS X CARNEA (BRIOTTII)	BRIOTTI RED HORSECHESTNUT	–			●			●	LOW, WIDE, AND ROUND
BETULA JACQUEMONTII	JACQUEMONTII BIRCH	–		●				●	BRILLIANT WHITE BARK
CARPINUS BETULUS (FASTIGIATA)	PYRAMIDAL EUROPEAN HORNBEAM	–		●		●	●		STARTS NARROW, BROADENS TO OVAL WITH AGE
CERCIDIPHYLLUM JAPONICUM	KATSURA TREE	–			●		●	●	VARIABLE UPRIGHT FORM, APRICOT FALL COLOR
FRAXINUS OXYCARPA (RAYWOOD)	RAYWOOD ASH	+		●			●	●	BRIGHT REDDISH PURPLE FALL COLOR
FRAXINUS PENNSYLVANICA (PATMORE)	PATMORE ASH	+			●		●		EXTREMELY HARDY, UPRIGHT BRANCHES
FRAXINUS AMERICANA (AUTUMN APPLAUSE)	AUTUMN APPLAUSE ASH	+		●			●		GOOD PURPLE FALL COLOR, SMALL AND DENSE
FRAXINUS PENNSYLVANICA (URBANITE)	URBANITE ASH	+			●		●		TALL, BROAD, AND UPRIGHT WITH BRONZE FALL COLOR

NOTES:

1. STREET TREES IN PLANTER STRIPS ALONG SNOHOMISH COUNTY ROADWAYS ARE TO BE FROM THIS LIST OF MEDIUM SIZE TREES, UNLESS SPECIAL CONDITIONS SUCH AS OVERHEAD WIRES OR WIDE PLANTING AREAS FAVOR SMALL OR LARGE TREES AS DETERMINED BY THE SNOHOMISH COUNTY ENGINEER.

2. AVERAGE TREE SPACING: 35'–40' O.C.

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SNOHOMISH COUNTY PUBLIC WORKS

4–020A MEDIUM TREES 30'–50' HEIGHT

APPROVED BY:

Steven E Moreno 2-25-03

COUNTY ROAD ENGINEER DATE

BOTANICAL NAME	COMMON NAME	HEIGHT + OR – 40'	10'–20' SPREAD	20'–30' SPREAD	30'–40' SPREAD	DROUGHT TOLERANT	SEASONAL COLOR	REQUIRES MOIST SOIL	REMARKS
GINKGO BILOBA (AUTUMN GOLD)	AUTUMN GOLD GINKGO	+			●		●		BROADLY PYRAMIDAL, GOLDEN YELLOW FALL COLOR
GINKGO BILOBA (PRINCETON SENTRY)	PRINCETON SENTRY GINKGO	+	●				●		NARROWLY PYRAMIDAL, BRIGHT YELLOW FALL COLOR
GLEDITSIA TRIACANTHOS (SHADEMASTER)	SHADEMASTER HONEYLOCUST	+			●		●		LACY, OPEN FORM, YELLOW FALL COLOR
LIQUIDAMBAR STYRACIFLUA (MORAINE)	MORAINE SWEETGUM	–		●			●		COLD HARDY, BURGUNDY FALL COLOR
LIQUIDAMBAR STYRACIFLUA (ROTUNDILOBA)	ROTUNDILOBA SWEETGUM	+		●			●		FRUITLESS, ROUNDED LOBES, ORANGE TO PURPLE FALL COLOR
LIQUIDAMBAR STYRACIFLUA (WORPLESDON)	WORPLESDON SWEETGUM	–		●			●		BROADLY PYRAMIDAL, ORANGE AND PURPLE FALL COLOR
PRUNUS SARGENTII (COLUMNARIS)	COLUMNAR SARGENT CHERRY	–	●				●		PINK BLOOMS, ORANGE/RED FALL COLOR, VASE SHAPED
PYRUS CALLERYANA (ARISTOCRAT)	ARISTOCRAT PEAR	–		●			●		WHITE BLOOMS, RED FALL COLOR, SPREADING BRANCHES
PYRUS CALLERYANA (GLEN'S FORM)	CHANTICLEER FLOWERING PEAR	–	●				●		SIMILAR TO ARISTOCRAT, NARROWER
PYRUS CALLERYANA (REDSPIRE)	REDSPIRE PEAR	–		●			●		WHITE SPRING BLOOMS, DENSE AND SYMMETRICAL
QUERCUS ROBUR (FASTIGIATA)	SKYROCKET OAK	+	●						UNIFORMLY NARROW
ROBINIA X AMBIGUA (IDAHOENSIS)	PINK IDAHO LOCUST	–		●		●			FOR DRY LOCATIONS, ROSE–PINK FRAGRANT FLOWERS
SORBUS AUCUPARIA (MICHRED)	CARDINAL ROYAL MTN. ASH	–		●			●		RED BERRIES, UPRIGHT BRANCHES, NARROW OVAL
TILIA CORDATA (GREENSPIRE)	GREENSPIRE LINDEN	+			●			●	WIDER PYRAMIDAL FORM, SYMMETRICAL
ZELKOVA SERRATA (VILLAGE GREEN)	VILLAGE GREEN ZELKOVA	+			●		●		VIGOROUS, WIDE VASE FORM, RUSTY RED FALL COLOR

NOTES:

1. STREET TREES IN PLANTER STRIPS ALONG SNOHOMISH COUNTY ROADWAYS ARE TO BE FROM THIS LIST OF MEDIUM SIZE TREES, UNLESS SPECIAL CONDITIONS SUCH AS OVERHEAD WIRES OR WIDE PLANTING AREAS FAVOR SMALL OR LARGE TREES AS DETERMINED BY THE SNOHOMISH COUNTY ENGINEER.

2. AVERAGE TREE SPACING: 35'–40' O.C.

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SNOHOMISH COUNTY PUBLIC WORKS

4–020B | MEDIUM TREES 30'–50' HEIGHT

APPROVED BY: Steve E Thomas 2-25-03

COUNTY ROAD ENGINEER DATE

BOTANICAL NAME	COMMON NAME	HEIGHT + OR – 50'	8' MIN. PLANTER WIDTH	10' MIN. PLANTER WIDTH	20'–30' SPREAD	20' TO 40' SPREAD	OVER 40' SPREAD	DROUGHT TOLERANT	SEASONAL COLOR	REQUIRES MOIST SOIL	REMARKS
ABIES GRANDIS	GRAND FIR	+		●			●			●	TALL EVERGREEN CONIFER
ACER SACCHARUM (BONFIRE)	BONFIRE MAPLE	+	●				●		●		FAST GROWING, ORANGE/RED FALL COLOR
ACER SACCHARUM (COMMEMORATION)	COMMEMORATION MAPLE	+	●			●			●		ORANGE FALL COLOR, RAPID GROWING
ACER SACCHARUM (GREEN MOUNTAIN)	GREEN MOUNTAIN MAPLE	–	●			●			●		HARDY, RED FALL COLOR
CALOCEDRUS DECURRENS	INCENSE CEDAR	+	●		●			●			EVERGREEN, NARROW FORM
LIQUIDAMBAR STYRACIFLUA	AMERICAN SWEETGUM	+				●			●	●	PYRAMIDAL FORM, YELLOW/RED/PURPLE FALL COLOR
LIRIODENDRON TULIPIFERA	TULIP TREE	+				●					STRONG CENTRAL TRUNK, NARROW FORM
NYSSA SYLVATICA	BLACK TUPELO	–	●		●				●		ORANGE FALL COLOR, SHAPE SPREADS WITH AGE
PLATANUS X ACERIFOLIA (BLOODGOOD)	BLOODGOOD LONDON PLANETREE	+		●		●			●		LARGE SPREADING TREE, PATCHY BARK
PSEUDOTSUGA MENZIESII	DOUGLAS FIR	+		●		●		●			VERY TALL EVERGREEN CONIFER
QUERCUS COCCINEA	SCARLET OAK	+		●			●		●		UPRIGHT GROWTH, OVAL, BRILLIANT RED FALL COLOR
QUERCUS RUBRA	RED OAK	+					●		●		FAST GROWING, ROUNDED SHAPE, RED FALL COLOR
THUJA PLICATA	WESTERN RED CEDAR	+		●		●				●	FOR MOIST OR SHADY LOCATIONS
ULMUS (HOMESTEAD)	HOMESTEAD ELM	+	●			●					FAST GROWTH, RESISTS DUTCH ELM DISEASE
ULMUS (PIONEER)	PIONEER ELM	+		●			●		●		RESISTS DUTCH ELM DISEASE, YELLOW FALL COLOR

NOTES:

1. NOT FOR USE IN STANDARD PLANTER STRIPS OR UNDER UTILITY WIRES. USE FOR BACK OF SIDEWALK OR LARGE PLANTING STRIPS 8' TO 10' WIDE.
2. CONIFERS ONLY ON BACK OF SIDEWALK.
3. AVERAGE TREE SPACING: 35'–40' O.C.

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SNOHOMISH COUNTY PUBLIC WORKS

4–030 | LARGE TREES 50' HEIGHT OR LARGER

APPROVED BY: Steven E. Thomsen 2-25-03

COUNTY ROAD ENGINEER DATE

BOTANICAL NAME	COMMON NAME	HEIGHT + OR − 24"	DROUGHT TOLERANT	BERRIES OR FLOWERS	REQUIRES MOIST SOIL	REMARKS
GROUNDCOVERS						
ARCTOSTAPHYLOS UVA–URSI	KINNIKINNICK	–	●	●		NATIVE EVERGREEN, LOW 3 IN. TO 9 IN. HT. VERY DROUGHT TOLERANT
ERICA CARNEA	WINTER HEATH	–		●		EVERGREEN, GROWS 2 FT. HT. BY 6 FT. WIDE, FLOWERS IN SPRING
RUBUS CALYCINOIDES	BRAMBLE	–	●	●		EVERGREEN, SPREADING GROUNDCOVER, SALMON COLORED BERRIES
SHRUBS						
BERBERIS THUNBERGII (CRIMSON PYGMY)	CRIMSON PYGMY BARBERRY	–		●		SMALL DECIDUOUS SHRUB, 18 IN. TO 24 IN., PURPLE FOLIAGE
CISTUS X HYBRIDUS	WHITE ROCKROSE	+	●	●		ROUNDED EVERGREEN SHRUB, GROWS 3 FT. TO 5 FT. HT., WHITE FLOWERS, VERY DROUGHT TOLERANT
CORNUS STOLONIFERA (KELSYEI)	KELSYEI RED TWIG DOGWOOD	–			●	DECIDUOUS MOUNDING SHRUB TO 2 FT. BRIGHT RED STEMS, NEEDS IRRIGATION
FESTUCA GLAUCA	BLUE FESCUE	–				SMALL CLUMPS OF EVERGREEN GRASS
GAULTHERIA SHALLON	SALAL	+	●	●		NATIVE EVERGREEN SHRUB, GROWS 2 FT.–4 FT. NEEDS TRIMMING, DROUGHT TOLERANT, WHITE FLOWERS, BLACK BERRIES
PINUS MUGO VAR. PUMILIO	COMPACT DWARF MUGO PINE	–				EVERGREEN SHRUB, GROWS SLOWLY TO 2 FT.
PRUNUS LAUROCERASUS (MT. VERNON)	MT. VERNON LAUREL	+		●		SMALL EVERGREEN SHRUB, GROWS SLOWLY TO 3 FT. HT.
PRUNUS LAUROCERASUS (OTTO LUYKEN)	OTTO LUYKEN LAUREL	+	●	●		SPREADING EVERGREEN SHRUB TO 3 FT., WHITE FLOWERS
VIBURNUM DAVIDII	DAVID VIBURNUM	+		●		2 FT.–3 FT. BY 3 FT. TO 4 FT. WIDE, WHITE FLOWERS, BLACK BERRIES

NOTE:

1. SUITABLE FOR USE IN PLANTER STRIPS AS SHOWN IN STANDARD DRAWINGS 4–050, 4–060, AND 4–070.

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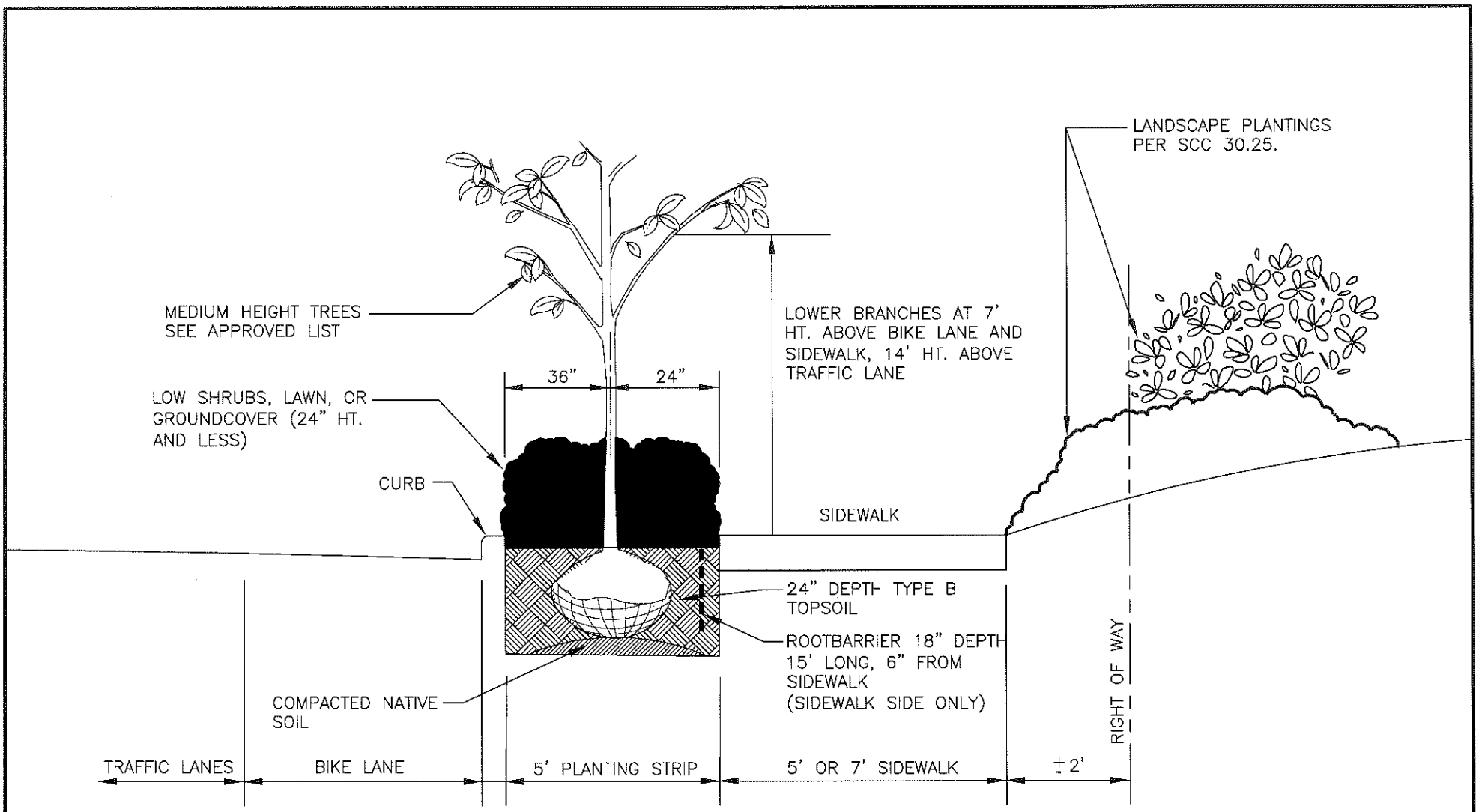
SNOHOMISH COUNTY PUBLIC WORKS

4–040 SHRUBS AND GROUNDCOVERS

APPROVED BY: Steven Thomsen 2-25-03

COUNTY ROAD ENGINEER DATE



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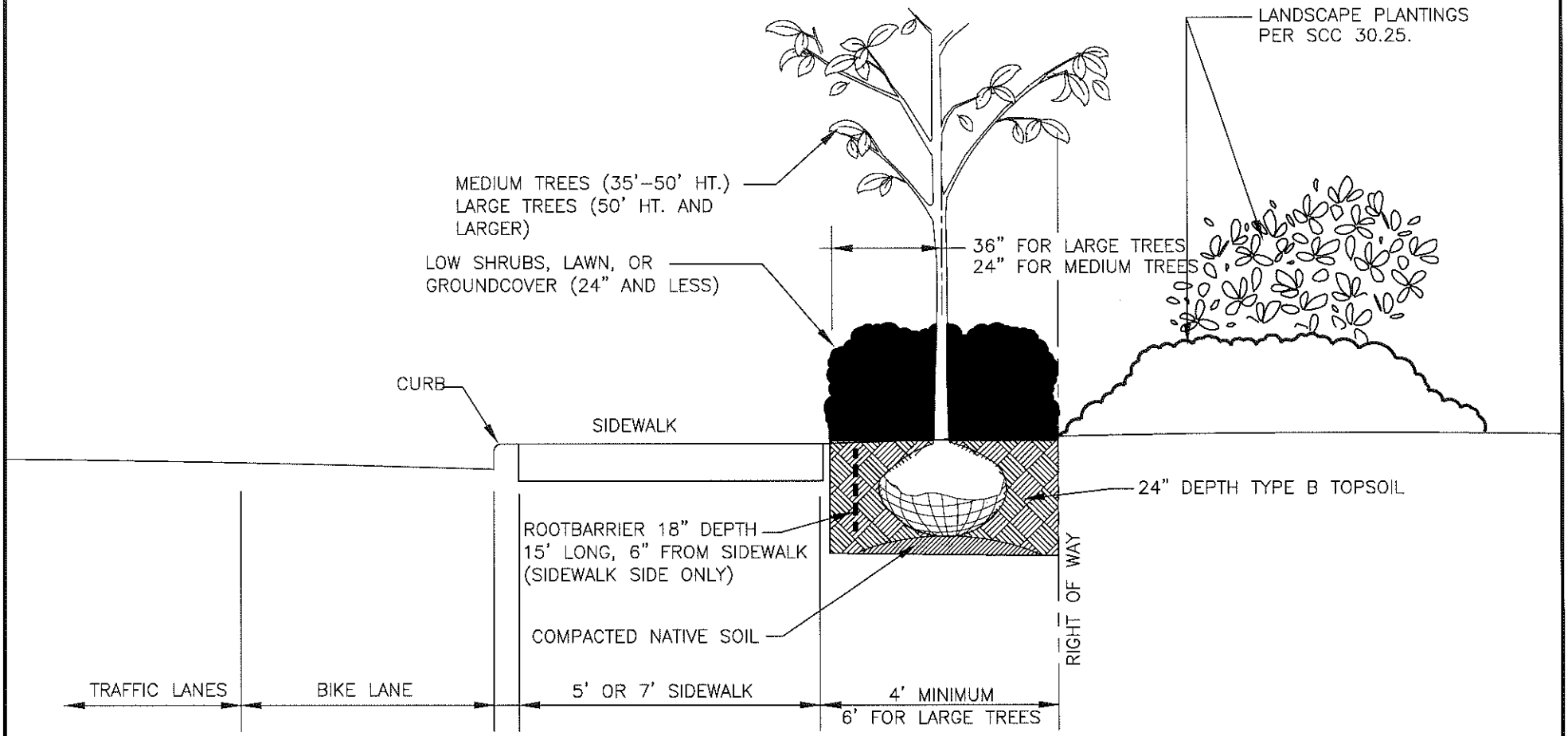
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven Thomsen 4-17-03
	4–050 STANDARD PLANTING STRIP	COUNTY ROAD ENGINEER DATE



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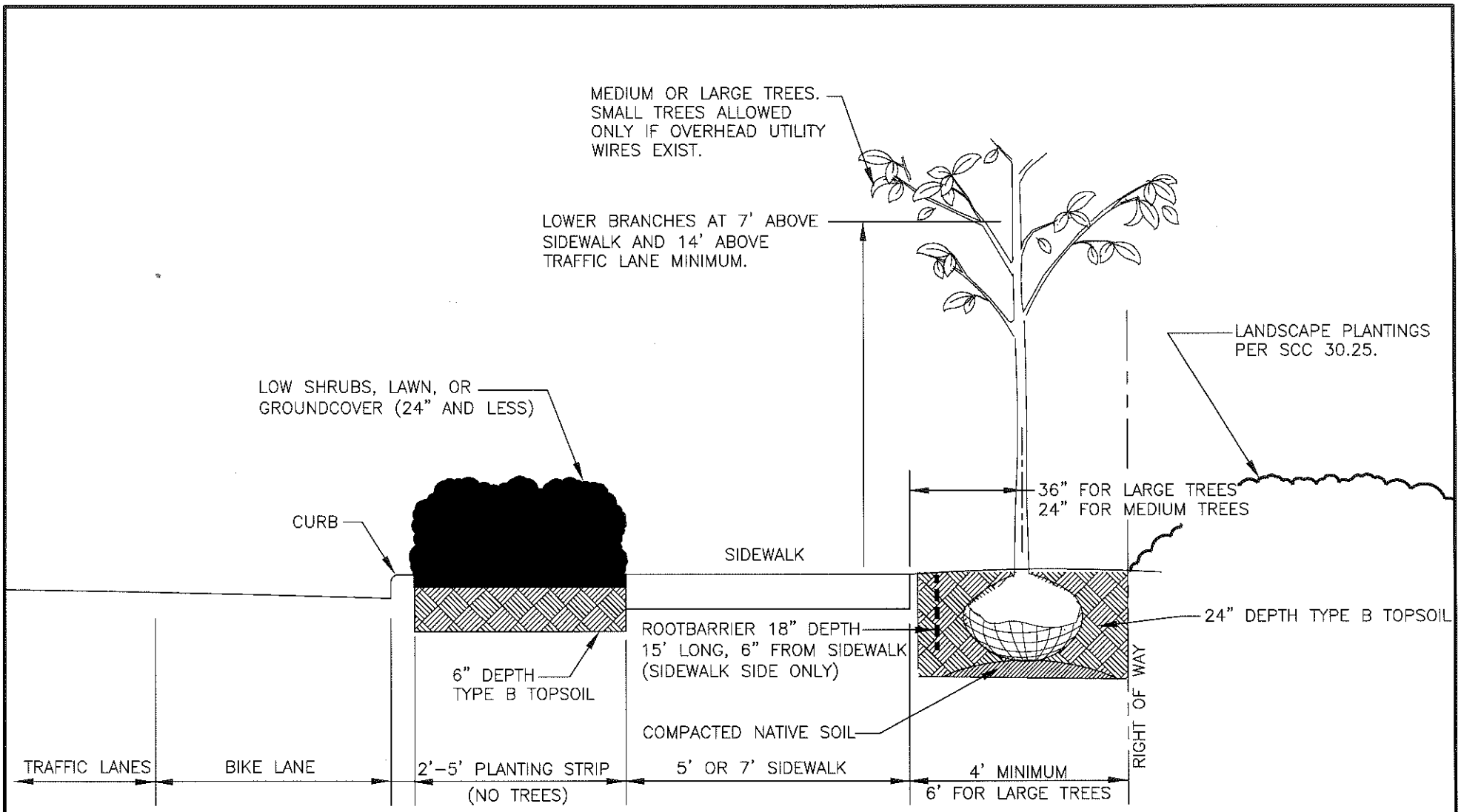
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven E Thorsen 4-17-03
	4–060 PLANTING STRIP BEHIND SIDEWALK	COUNTY ROAD ENGINEER DATE



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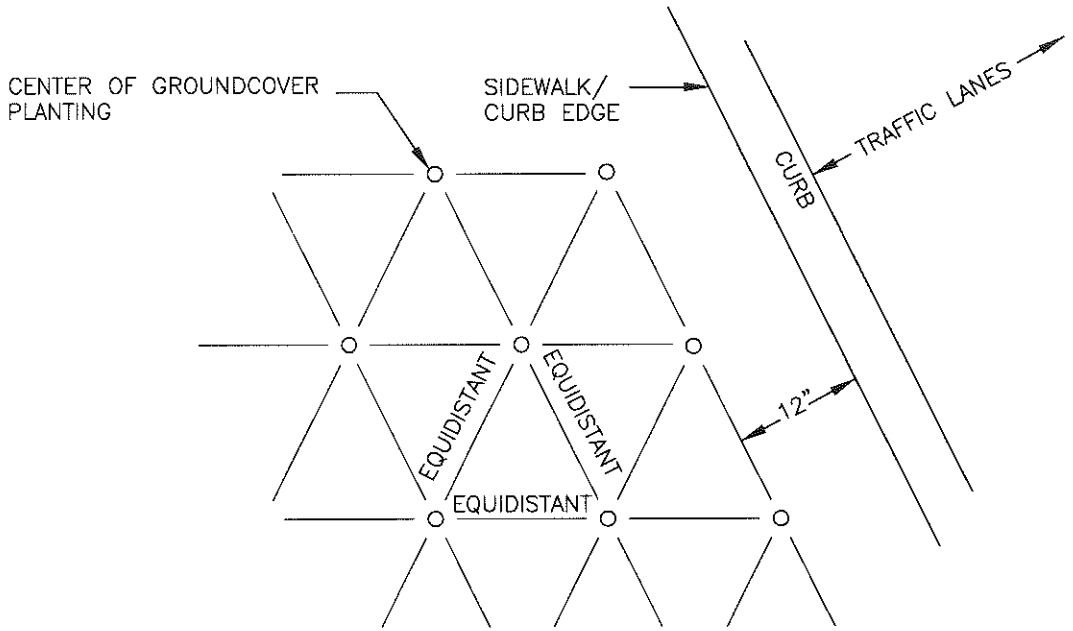
SNOHOMISH COUNTY PUBLIC WORKS		APPROVED BY: Steven E Thomas 4-17-03
4–070	COMBINATION PLANTING STRIPS	COUNTY ROAD ENGINEER DATE



NOTES:

1. SNOHOMISH COUNTY TO APPROVE FINAL LAYOUT BASED ON ACTUAL FIELD DIMENSIONS.
2. SEE PLANT LISTS FOR SPACING. PROVIDE 100% COVERAGE IN 3 YEARS.

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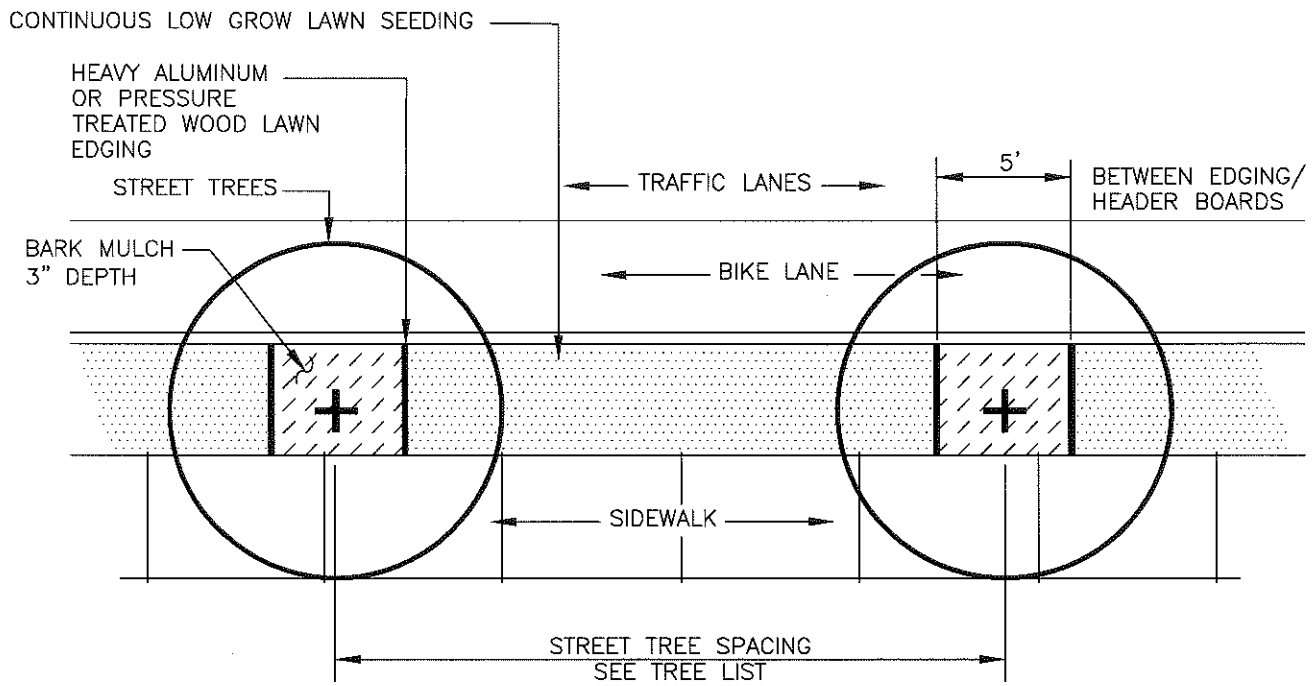
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven E Thomas 2-25-03
4-080	SMALL SHRUB – GROUNDCOVER SPACING	COUNTY ROAD ENGINEER DATE



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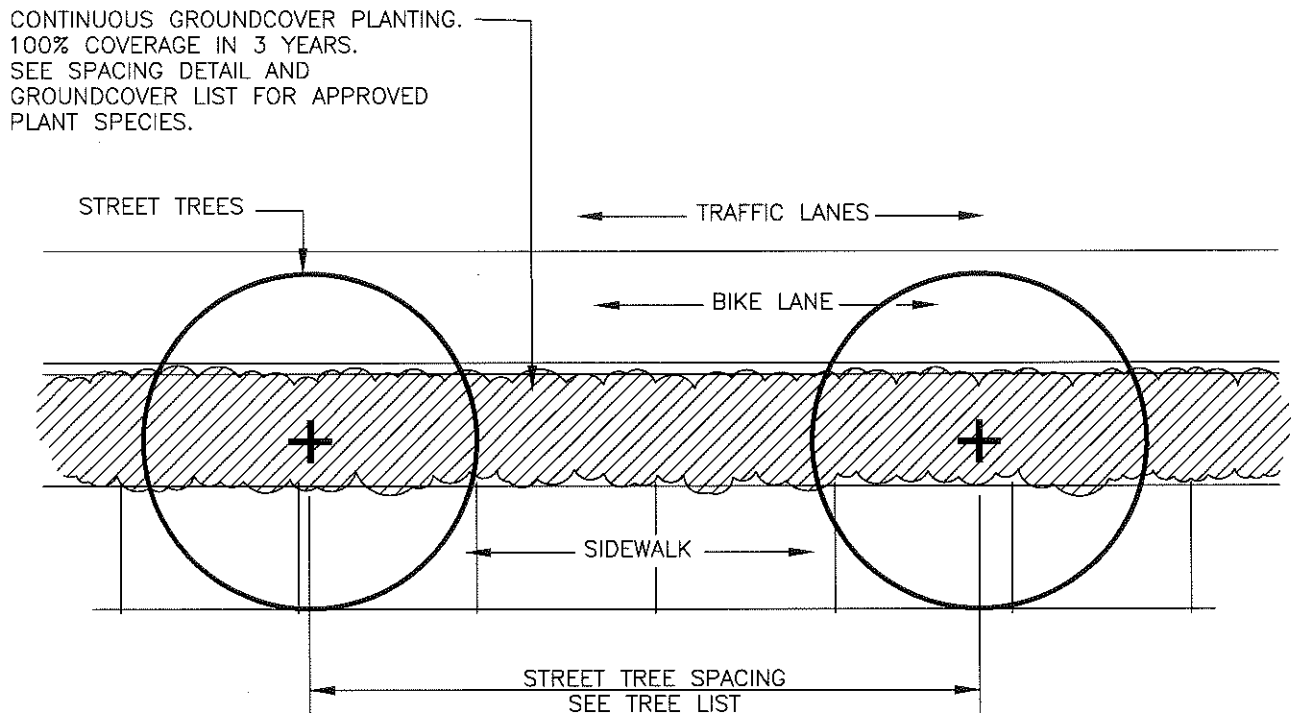
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven C Thomsen 2-7-03
4–090	TREE AND LAWN PLANTING STRIP	COUNTY ROAD ENGINEER DATE



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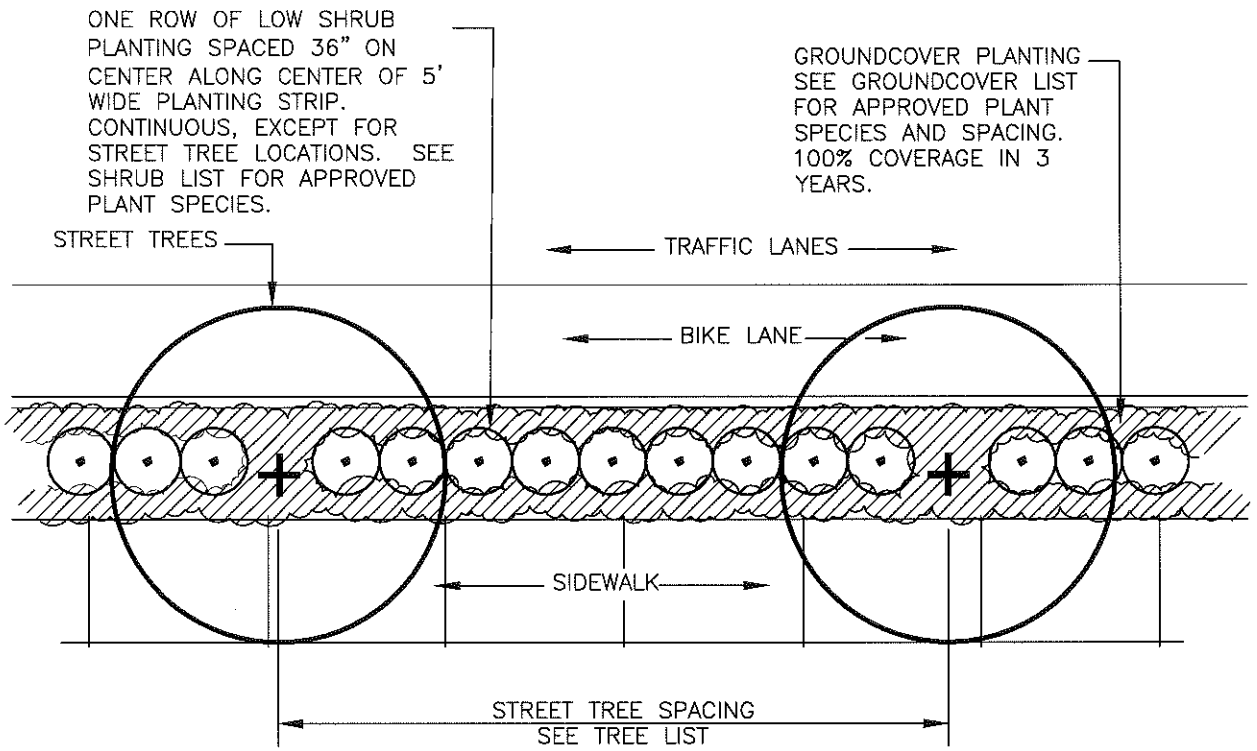
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steve E Thomas 2-7-03
	4–100 TREE AND GROUNDCOVER PLANTING STRIP	COUNTY ROAD ENGINEER DATE



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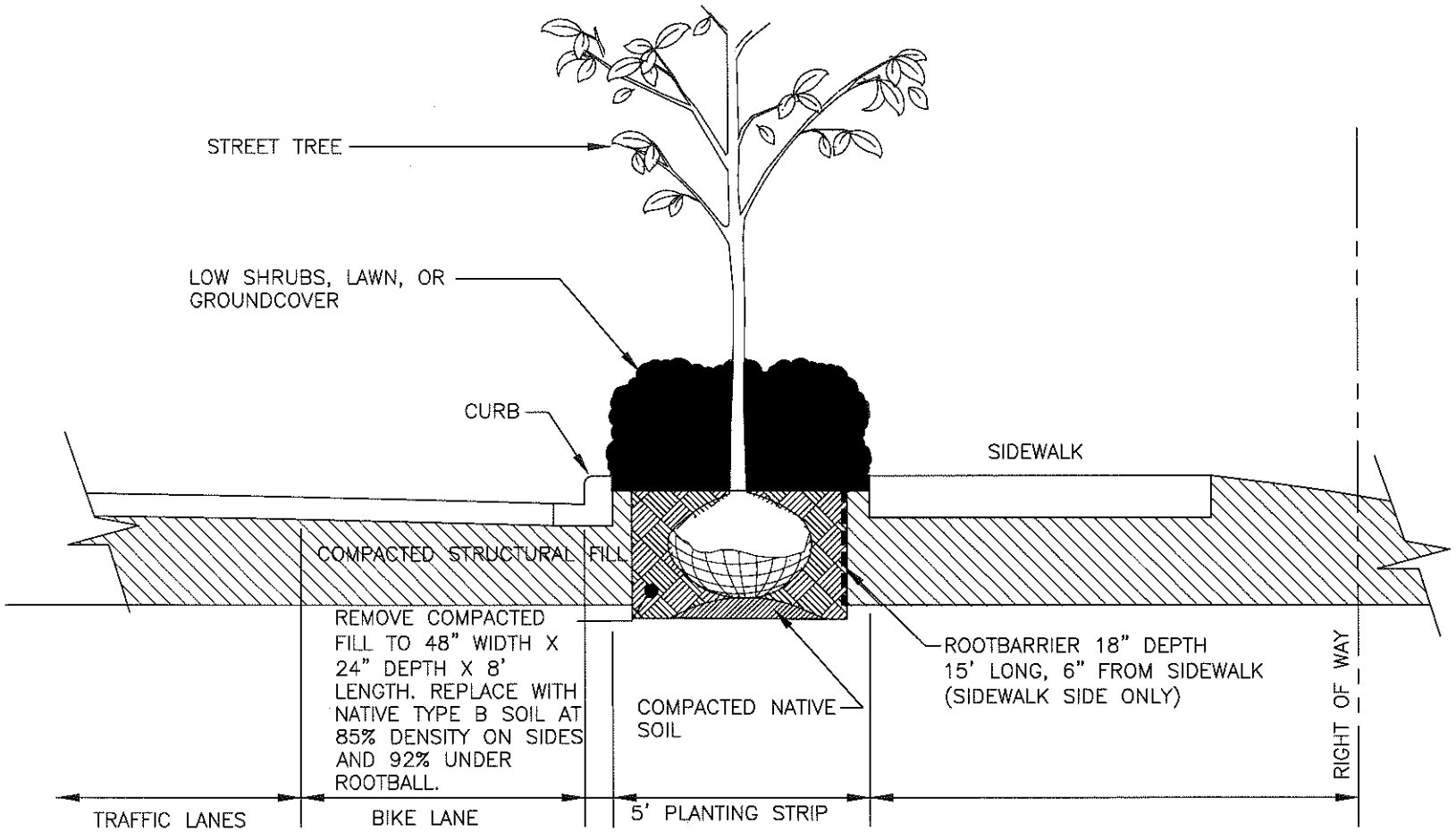
SNOHOMISH COUNTY PUBLIC WORKS		APPROVED BY: Steven E Thorsen 2-7-03
4–110	SHRUB, TREE, AND GROUNDCOVER PLANTING STRIP	COUNTY ROAD ENGINEER DATE



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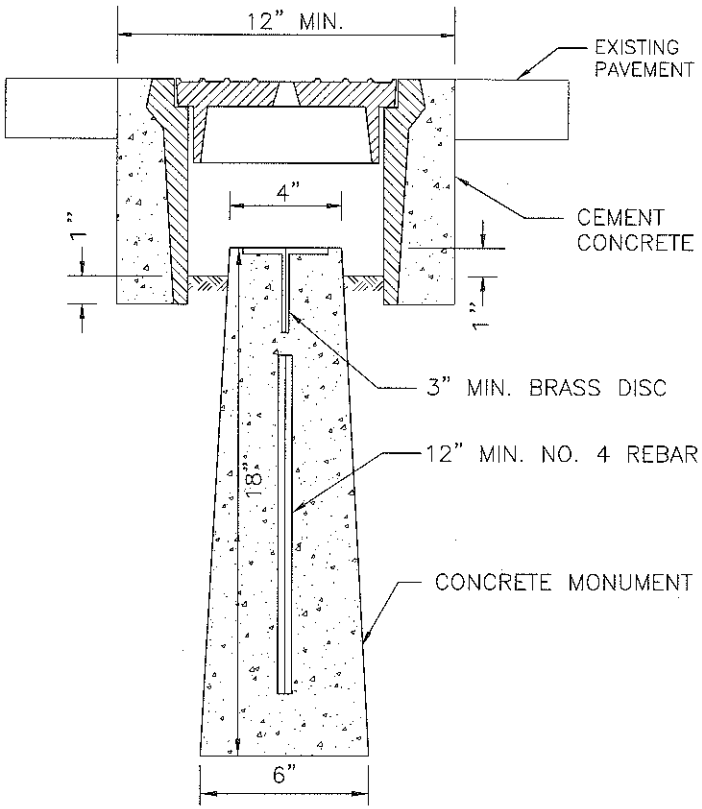
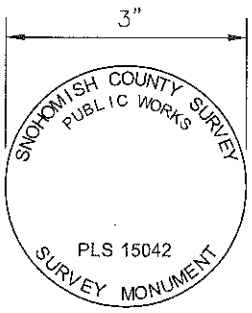
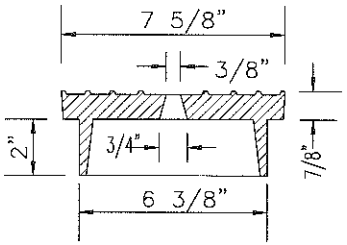
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steve Thomsen 2-7-03
4–120	COMPACTED FILL REMOVAL / REPLACEMENT	COUNTY ROAD ENGINEER DATE

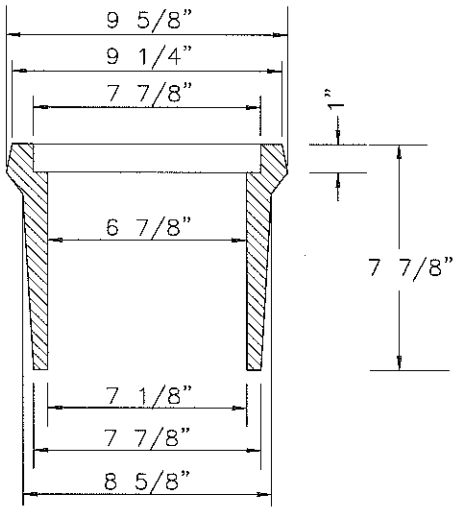


PLAN

* BRASS DISK FOR SNOHOMISH COUNTY PROJECTS







SECTION

NOTES:

1. THE OFF-STREET MONUMENT SHALL BE THE SAME EXCEPT USING A NO. 8 REBAR AND WITHOUT A CASE AND COVER. THE OFF-STREET MONUMENT SHALL BE 3" ABOVE GRADE.
2. MONUMENT CASE AND COVER SHALL BE CAST IRON.
3. BRASS DISCS FOR NON-SNOHOMISH COUNTY PROJECTS SHALL BEAR THE REGISTRATION NUMBER OF THE LAND SURVEYOR RESPONSIBLE FOR SETTING THE MONUMENT.

* 4. BRASS DISCS FOR SNOHOMISH COUNTY PROJECTS SHALL BEAR THE COUNTY LAND SURVEYOR'S REGISTRATION NUMBER, AND THE REGISTRATION NUMBER OF THE LAND SURVEYOR RESPONSIBLE FOR SETTING THE MONUMENT.

SEE TEXT SECTION 4-03

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY:
4-130	MONUMENT CASE AND COVER	COUNTY ROAD ENGINEER — DATE 6/5/09

NOTES:

1. VERTICAL CURB WILL BE REQUIRED EXCEPT AS NOTED IN SECTION 4-04.

2. CONSTRUCTION OF CURB DETAILS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION AS PUBLISHED BY THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION AND THE AMERICAN PUBLIC WORKS ASSOCIATION. (WSDOT/APWA SPECIFICATIONS) UNLESS OTHERWISE MODIFIED BELOW.

3. ALL CONCRETE SHALL BE COMMERCIAL CLASS PER WSDOT/APWA SPECIFICATIONS.

4. FORMS SHALL BE TRUE TO LINE AND GRADE AND SECURELY STAKED. STEEL FORMS ONLY SHALL BE USED ON TANGENT SECTIONS. WOOD FORMS MAY BE USED ON CURVED SECTIONS.

5. FULL DEPTH EXPANSION JOINTS CONSISTING OF 3/8 INCH MINIMUM PREMOLDED JOINT MATERIAL SHALL BE PLACED ADJACENT TO CATCH BASINS, INLETS AND AT POINTS OF TANGENCY ON STREETS AND DRIVEWAY RETURNS. MAXIMUM SPACING SHALL BE 20 FEET.

6. CONTRACTION JOINTS (DUMMY JOINTS) CONSISTING OF 3/8" MIN. X 2" OF PREMOLDED JOINT MATERIAL SHALL BE CONSTRUCTED AT INTERVALS OF 10 FEET.

7. ALL JOINTS SHALL BE CLEAN AND EDGED.

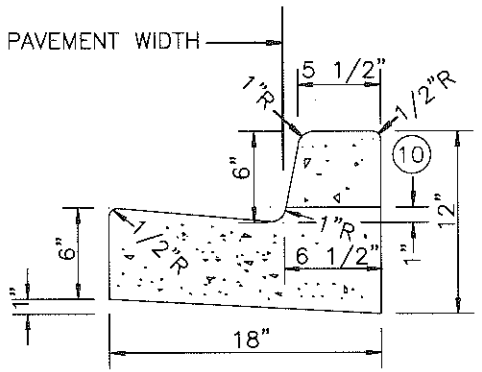
8. FINISH SHALL BE A LIGHT BROOM FINISH.

9. FINISHED CURBS AND GUTTERS SHALL BE SPRAYED WITH A CLEAR CURING COMPOUND.

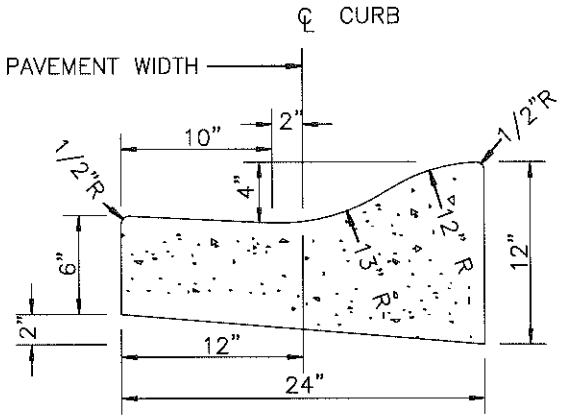
10. TOP OF CURB AT ACCESS POINT APPROACH.

11. SUBGRADE COMPACTION FOR CURBS AND GUTTERS SHALL MEET A MINIMUM 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH SEC. 2-03.3(14) OF THE WSDOT/APWA SPECIFICATIONS.

SEE TEXT SECTION 4-04

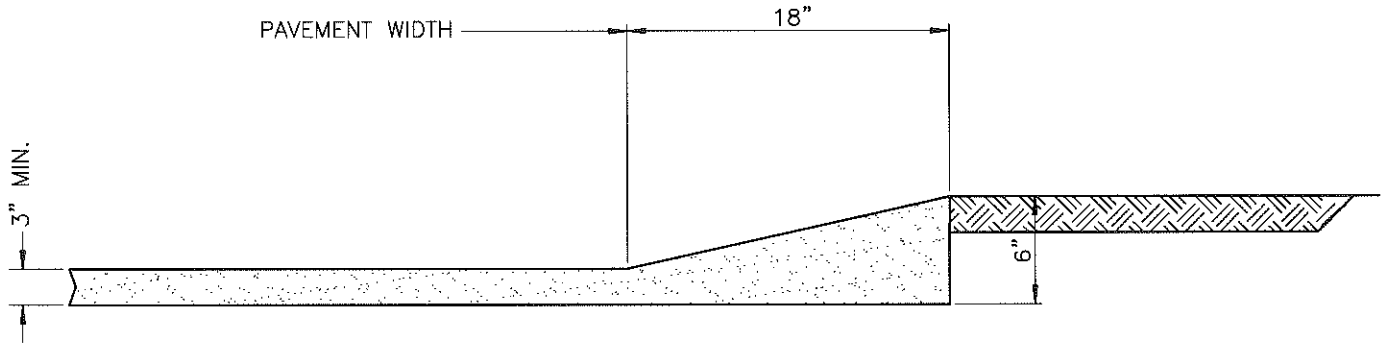


CEMENT CONCRETE
VERTICAL CURB AND GUTTER

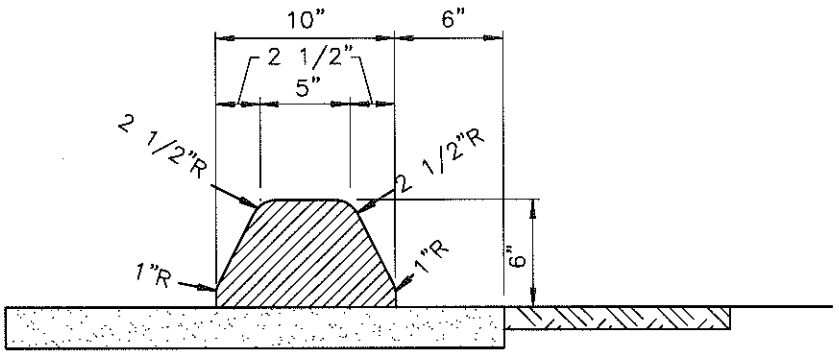


CEMENT CONCRETE
ROLLED CURB AND GUTTER

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven E. Thomas 10-1-04
4-140	CURB DETAILS	COUNTY ROAD ENGINEER DATE



ASPHALT THICKENED
EDGE



EXTRUDED CURB

NOTES:

1. EXTRUDED CURB SHALL BE BONDED TO THE PAVEMENT WITH TACK COAT OR SLURRY MIXTURE ADHESIVE.

2. JOINTS IN EXTRUDED CEMENT CONCRETE CURB SHALL BE CUT VERTICALLY AT 10 FOOT INTERVALS TO A MINIMUM DEPTH OF 5 INCHES. SAWED CUTS SHALL BE 1/8 INCH MINIMUM WIDTH.

SEE TEXT SECTION 4-04

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	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven L Thomas 2-25-03
4-145	CURB DETAILS	COUNTY ROAD ENGINEER DATE

NOTES:

1. CONSTRUCTION OF SIDEWALKS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION AS PUBLISHED BY THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION AND THE AMERICAN PUBLIC WORKS ASSOCIATION (WSDOT/APWA SPECIFICATIONS) UNLESS OTHERWISE MODIFIED BELOW.

2. ALL CONCRETE SHALL BE COMMERCIAL CLASS CONCRETE PER WSDOT/APWA SPECIFICATIONS.

3. FORMS SHALL BE TRUE TO LINE AND GRADE AND SECURELY STAKED. STEEL FORMS ONLY SHALL BE USED ON TANGENT SECTIONS. WOOD FORMS MAY BE USED ON CURVED SECTIONS.

4. EXPANSION JOINTS CONSISTING OF 3/8" FULL DEPTH PREMOLDED JOINT MATERIAL SHALL BE PLACED AROUND FIRE HYDRANTS, POLES, METER BOXES AND OTHER OBSTRUCTIONS AND ALONG WALLS OR STRUCTURES IN PAVED AREAS. EXPANSION JOINTS SHALL ALSO BE PLACED AT THE BEGINNING AND THE END OF EACH CURVE, ON EACH SIDE OF STRUCTURES, DROP CURB DRIVEWAYS AND CURB RAMPS, BETWEEN SIDEWALK AND BACK OF CURB WHEN POURED SEPARATELY, AND AT OTHER LOCATIONS AS DIRECTED BY THE ENGINEER. FULL EXPANSION JOINTS SHALL GENERALLY BE PLACED TO MATCH THOSE PLACED IN ADJACENT CURB WITH A MAXIMUM SPACING OF 20 FEET.

5. CONTRACTION JOINTS (DUMMY JOINTS) CONSISTING OF 3/8" X 2" OF PREMOLDED JOINT MATERIAL SHALL BE CONSTRUCTED AT INTERVALS NOT TO EXCEED 10 FEET. WHEN SIDEWALKS ARE PLACED BY SLIP-FORMING, A PREMOLDED STRIP OF 3/8" THICK AND UP TO FULL DEPTH MAY BE USED. CONTRACTION JOINTS (DUMMY JOINTS) IN SIDEWALKS SHALL BE LOCATED SO AS TO MATCH THE JOINTS IN THE CURB WHETHER SIDEWALK IS ADJACENT TO CURB OR SEPARATED BY A PLANTING STRIP. JOINT SEALANTS FOR SAWED CONSTRUCTION JOINTS SHALL MEET THE REQUIREMENTS OF SECTION 9-04.2 OF THE WSDOT/APWA SPECIFICATIONS.

6. ALL JOINTS SHALL BE CLEAN AND EDGED.

7. CEMENT CONCRETE SIDEWALK THICKNESS IS SPECIFIED IN TEXT SECTION 4-05C. SEE ALSO STANDARD DRAWINGS 2-020 AND 2-025 FOR DRIVEWAY DETAILS.

8. THE WIDTH OF SIDEWALK SHALL BE 5 FEET MIN. FOR SINGLE FAMILY RESIDENTIAL PROPERTY USES AND 7 FEET MIN. FOR COMMERCIAL/INDUSTRIAL AND MULTI-FAMILY RESIDENTIAL PROPERTY USES.

9. SCORE MARKS, 1/4" DEEP, ARE TO BE PLACED ON 5 FOOT CENTERS, AND TO CORRESPOND TO THE MARKINGS IN EXISTING SIDEWALKS. WHEN THE SIDEWALK WIDTH EXCEEDS 6 FEET, A LONGITUDINAL SCORE AT THE CENTER OF THE SIDEWALK SHALL BE PROVIDED.

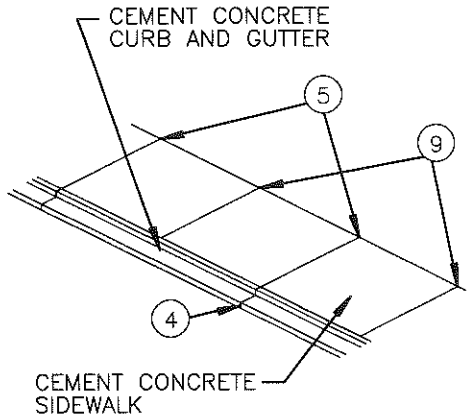
10. FINISH SHALL BE A LIGHT BROOM FINISH.

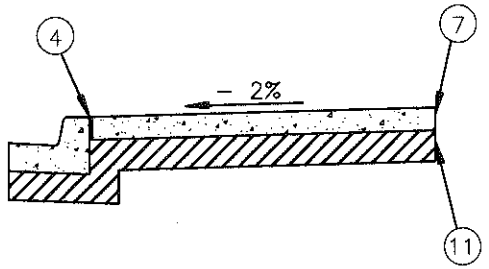
11. 6 INCHES OF GRAVEL BORROW OR EQUIVALENT. SEE STANDARD DRAWINGS 3-020, 3-050 AND SECTION 4-10.

12. SUBGRADE COMPACTION FOR SIDEWALKS SHALL MEET A MINIMUM 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH SEC. 2-03.3(14) OF THE WSDOT/APWA SPECIFICATIONS.

13. PLANTER STRIPS REQUIRED BUT NOT SHOWN. SEE STANDARD DRAWINGS 3-020 AND 3-050 FOR LOCATION OF PLANTERS.

SEE TEXT SECTION 4-05.





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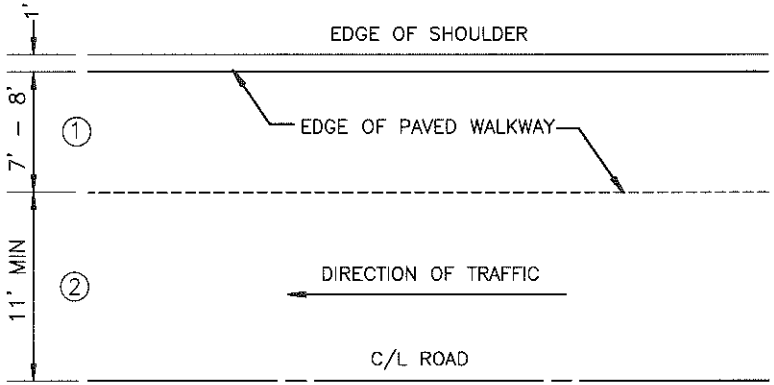
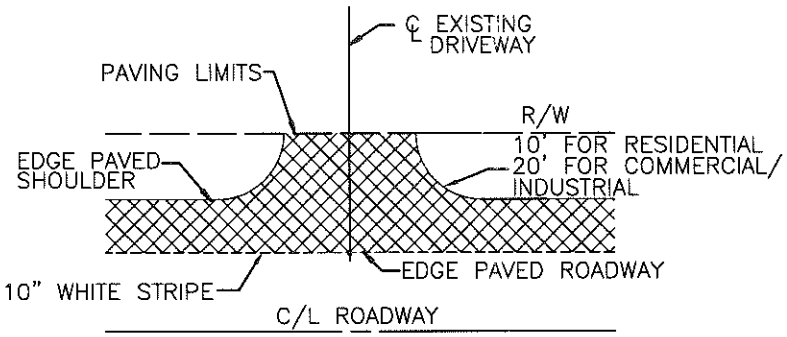
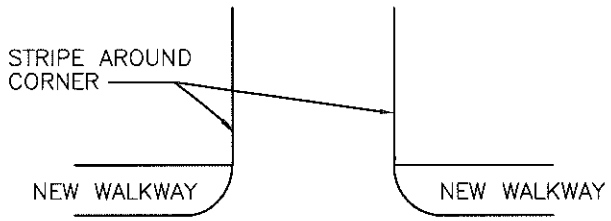
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven Thurnen 2-25-03
	4-150 SIDEWALK DETAILS	COUNTY ROAD ENGINEER DATE



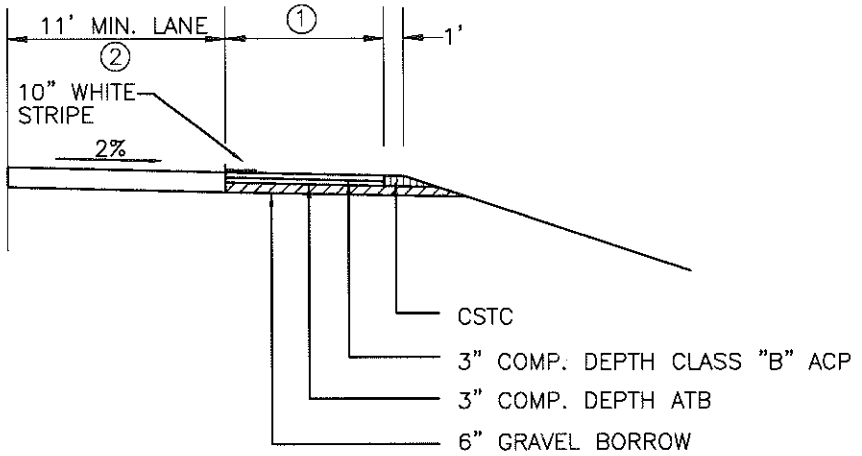
PLAN VIEW



DRIVEWAY PAVING PLAN



PLACEMENT AT INTERSECTIONS



TYPICAL NON–ARTERIAL ROADWAY SECTION

NOTES:

① VARIES 7' TO 8' DEPENDING ON ROAD CLASSIFICATION.

② FOR RURAL ARTERIAL. NON–ARTERIALS VARY 9' TO 11'.

SEE TEXT SECTION 4–06

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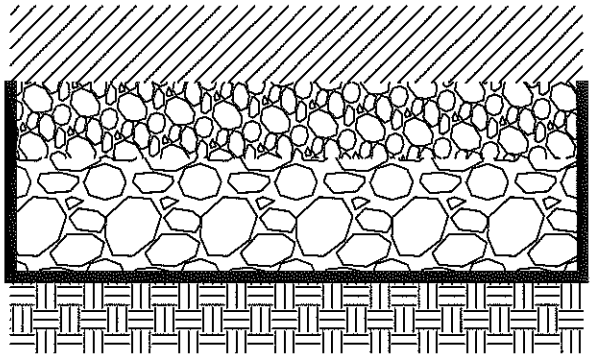
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steve E Thomas 2-25-03
	4–160 ASPHALT WALKWAY	COUNTY ROAD ENGINEER DATE

TYPICAL CROSS–SECTION

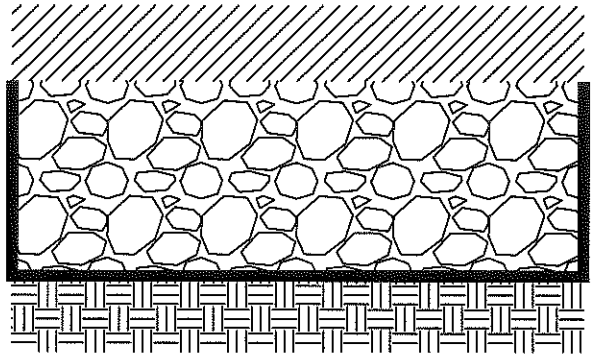


1. PAVEMENT DESIGN MUST BE REVIEWED AND APPROVED BY SNOHOMISH COUNTY.
2. TYPICAL CROSS–SECTION LAYERS:

TOP COURSE:	PLANT–MIXED, OPEN–GRADED HOT MIX ASPHALT (HMA).
CHOKER COURSE:	CLEAN, WASHED CRUSHED ROCK CONFORMING TO ASTM C33, GRADING NO. 8.
RESERVOIR COURSE:	CLEAN, WASHED CRUSHED ROCK CONFORMING TO ASTM C33, GRADING NO. 57. LAYER DEPTH DETERMINED BY DRAINAGE DESIGN ASSUMPTIONS, SOIL POROSITY AND PAVEMENT STRUCTURE. 6 INCHES MINIMUM.
GEOTEXTILE LAYER:	FABRIC PLACEMENT PER ENGINEERING DESIGN. WSDOT STANDARD SPECIFICATIONS SECTION 9–33 FOR PERMANENT EROSION CONTROL, NON–WOVEN, HIGH SURVIVABILITY, CLASS B FILTRATION FABRIC.
SUBGRADE:	DO NOT ALLOW COMPACTION BY CONSTRUCTION EQUIPMENT. COMPACT ONLY AS NECESSARY FOR STRUCTURAL STABILITY. SCARIFY SOIL TO A MINIMUM DEPTH OF 6 INCHES PRIOR TO PLACEMENT OF GEOTEXTILE FABRIC AND AGGREGATE.

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: 9/23/10
4–164	POROUS ASPHALT PAVEMENT	COUNTY ROAD ENGINEER — DATE

TYPICAL CROSS–SECTION



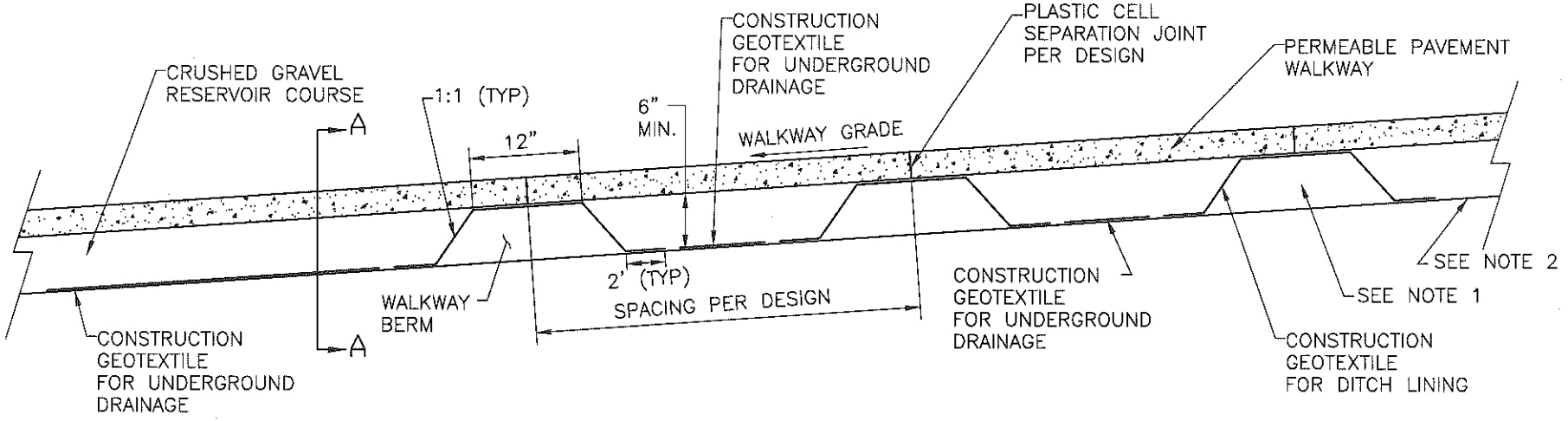
1. PAVEMENT DESIGN MUST BE REVIEWED AND APPROVED BY SNOHOMISH COUNTY.
2. MATERIALS:

CEMENT:	PORTLAND CEMENT TYPE I OR II CONFORMING TO ASTM C150 OR TYPE IP OR TYPE I(SM) CONFORMING TO ASTM C595.
AGGREGATE:	CLEAN, WASHED CRUSHED ROCK CONFORMING TO ASTM C33, GRADING NO. 57.
WATER:	WSDOT STANDARD SPECIFICATIONS SECTION 9–25.1.
ADMIXTURES:	TYPE D WATER REDUCING/RETARDING CONFORMING TO ASTM C494 OR A HYDRATION STABILIZER MEETING REQUIREMENTS OF ASTM C494 FOR TYPE B RETARDING OR TYPE D WATER REDUCING/RETARDING ADMIXTURES.
FIBER:	FIBRILLATED POLYPROPYLENE REINFORCING FIBERS, 1/2–INCH LONG, CONFORMING TO ASTM C1116.

3. TYPICAL CROSS–SECTION LAYERS:

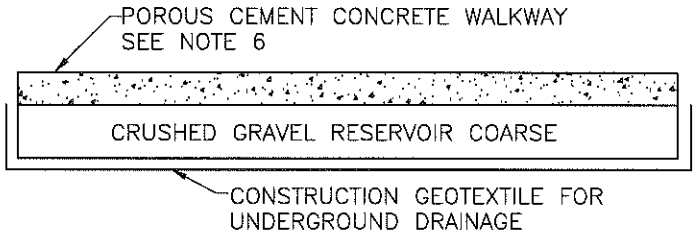
TOP COURSE:	PORTLAND CEMENT CONCRETE
RESERVOIR COURSE:	LAYER DEPTH DETERMINED BY DRAINAGE DESIGN ASSUMPTIONS, SOIL POROSITY AND PAVEMENT STRUCTURE. 6 INCHES MINIMUM.
GEOTEXTILE LAYER:	FABRIC PLACEMENT PER ENGINEERING DESIGN. WSDOT STANDARD SPECIFICATIONS SECTION 9–33 FOR PERMANENT EROSION CONTROL, NON–WOVEN, HIGH SURVIVABILITY, CLASS B FILTRATION FABRIC.
SUBGRADE:	DO NOT ALLOW COMPACTION BY CONSTRUCTION EQUIPMENT. COMPACT ONLY AS NECESSARY FOR STRUCTURAL STABILITY. SCARIFY SOIL TO A MINIMUM DEPTH OF 6 INCHES PRIOR TO PLACEMENT OF GEOTEXTILE FABRIC AND AGGREGATE.

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: 9/23/10
4–166	POROUS CONCRETE PAVEMENT	COUNTY ROAD ENGINEER DATE



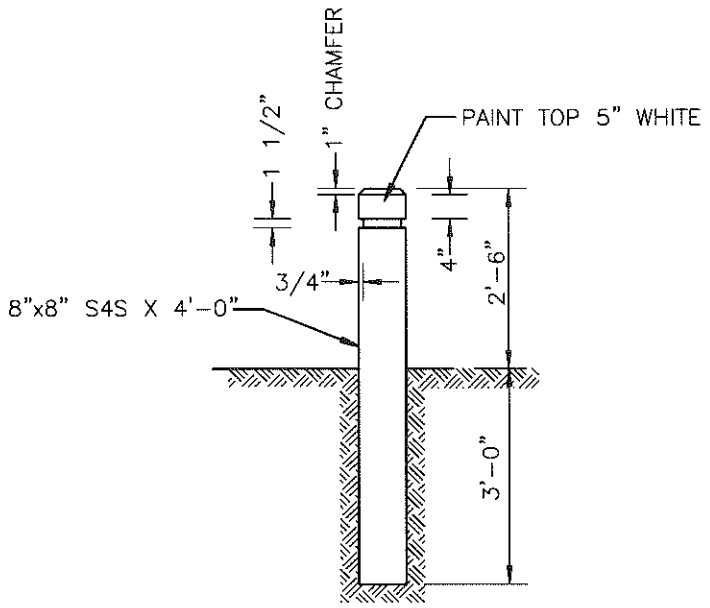
NOTES:

1. NATIVE MATERIAL AND/OR FILL MATERIAL. COMPACTED TO 95% OF MAXIMUM, TOP OF BERM ONLY.
2. NO COMPACTION OF NATIVE MATERIALS OUTSIDE OF BERMS.
3. CONSTRUCTION GEOTEXTILE FOR DITCH LINING SHALL COVER BERMS INCLUDING 2 FT TYPICAL ON EACH SIDE. GEOTEXTILE FOR UNDERGROUND DRAINAGE SHALL LINE THE REMAINING RESERVOIR LAYER.
4. PLASTIC CELL SEPARATION JOINTS OR OTHER MEASURES MAY BE REQUIRED ABOVE BERMS TO CONTROL HORIZONTAL FLOW THROUGH THE SURFACE LAYER, DEPENDING ON PROJECT DESIGN.
5. THE MAXIMUM RECOMMENDED GRADES FOR PERMEABLE PAVEMENT SYSTEMS ARE 5% FOR POROUS ASPHALT, 6% FOR POROUS CONCRETE OR GRID/LATTICE SYSTEMS, AND 10% FOR PAVER SYSTEMS.
6. PAVEMENT DEPTH PER PROJECT DESIGN. SEE TEXT SECTION 4–10.D.

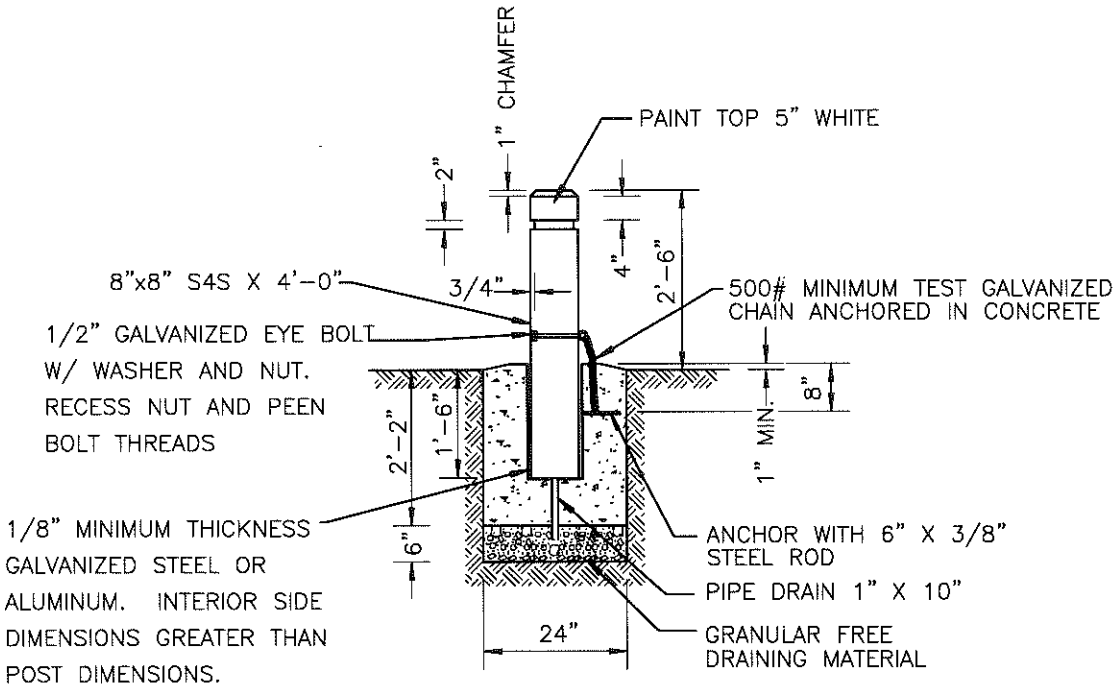


SECTION A–A
N.T.S.

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: 9/23/10
4–168	PERMEABLE PAVEMENT BERMS	COUNTY ROAD ENGINEER — DATE



FIXED BOLLARD



REMOVABLE BOLLARD

NOTES:

1. ALL WOOD SHALL BE PRESSURE TREATED.
2. STEEL TUBE SHALL CONFORM TO ASTM A53 OR ASTM A53 GRADE A.
3. NUTS, BOLTS & WASHERS SHALL CONFORM TO ASTM A307.
4. ALL STEEL PARTS SHALL BE GALVANIZED.
5. COMMERCIAL CLASS CONCRETE SHALL BE USED.
6. FOR ACCEPTABLE ALTERNATE BOLLARD DESIGNS, SEE WSDOT/APWA PLANS H-13 AND H-13A.

SEE TEXT SECTION 4-11

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	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steve E Thorne 2-25-03
4-170	BOLLARDS	COUNTY ROAD ENGINEER DATE

BARRICADE CHARACTERISTICS

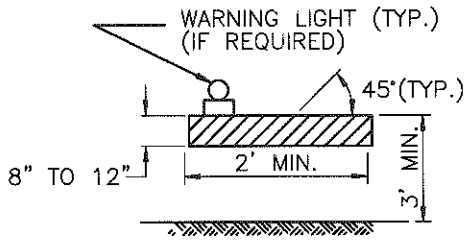
TYPE OF BARRICADE	I	II	III
WIDTH OF RAIL	8" MIN. – 12" MAX.	8" MIN. – 12" MAX.	8" MIN. – 12" MAX.
LENGTH OF RAIL	2 FT. MIN.	2 FT. MIN.	4 FT. MIN.
WIDTH OF STRIPES	6 IN.	6 IN.	6 IN.
HEIGHT	3 FT. MIN.	3 FT. MIN.	5 FT. MIN.
NUMBER OF REFLECTORIZED FACES	2 (ONE EACH DIRECTION)	4 (TWO EACH DIRECTION)	3 IF FACING TRAFFIC IN ONE DIRECTION 6 IF FACING TRAFFIC IN TWO DIRECTIONS

NOTES:

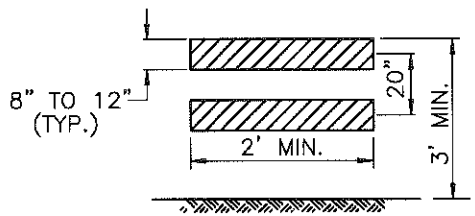
FOR WOODEN BARRICADES, NOMINAL LUMBER DIMENSIONS WILL BE SATISFACTORY.

FOR RAILS LESS THAN 3–FEET LONG, 4–INCH–WIDE STRIPES SHALL BE USED.

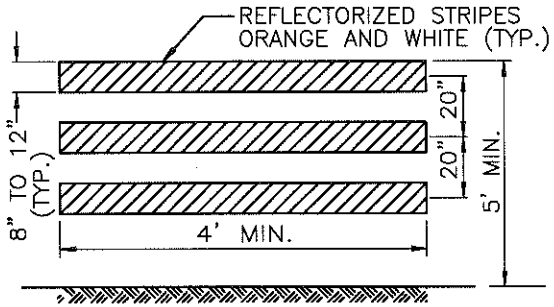
BARRICADES INTENDED FOR USE ON EXPRESSWAYS, FREEWAYS AND OTHER HIGH SPEED ROADWAYS SHALL HAVE A MINIMUM OF 270 SQUARE INCHES OF REFLECTIVE AREA FACING TRAFFIC.



TYPE I BARRICADE
(RIGHT " (R) BARRICADE SHOWN) (TYP.)



TYPE II BARRICADE



TYPE III BARRICADE

NOTES:

1. BARRICADES SHALL BE INSTALLED IN ACCORDANCE WITH PART VI OF THE MUTCD.

2. RAILS SHALL BE PLACED BOTH FRONT AND BACK OF BARRICADE IF REQUIRED FOR TWO–WAY TRAFFIC. RAILS SHALL BE THE SAME SIZE.

3. LUMBER SHALL BE STANDARD GRADE OR BETTER.

4. RIGHT (R) BARRICADES ARE PLACED TO THE RIGHT OF TRAFFIC. LEFT (L) BARRICADES ARE PLACED TO THE LEFT OF TRAFFIC.

5. WHERE A BARRICADE EXTENDS ENTIRELY ACROSS A ROADWAY, THE STRIPES SHALL SLOPE DOWNWARD IN THE DIRECTION TOWARD WHICH TRAFFIC MUST TURN IN DETOURING. WHERE BOTH RIGHT AND LEFT TURNS ARE PROVIDED FOR, THE CHEVRON STRIPING SHALL SLOPE DOWNWARD IN BOTH DIRECTIONS FROM THE CENTER OF THE BARRICADE.

6. BARRICADE RAILS SHOULD BE SUPPORTED IN A MANNER THAT WILL ALLOW THEM TO BE SEEN BY THE MOTORIST AND PROVIDE A STABLE SUPPORT NOT EASILY BLOWN OVER BY THE WIND OR TRAFFIC. BARRICADES SHOULD BE CONSTRUCTED OF LIGHTWEIGHT MATERIALS AND HAVE NO RIGID STAY BRACING FOR A–FRAME DESIGNS.

SEE TEXT SECTION 4–12

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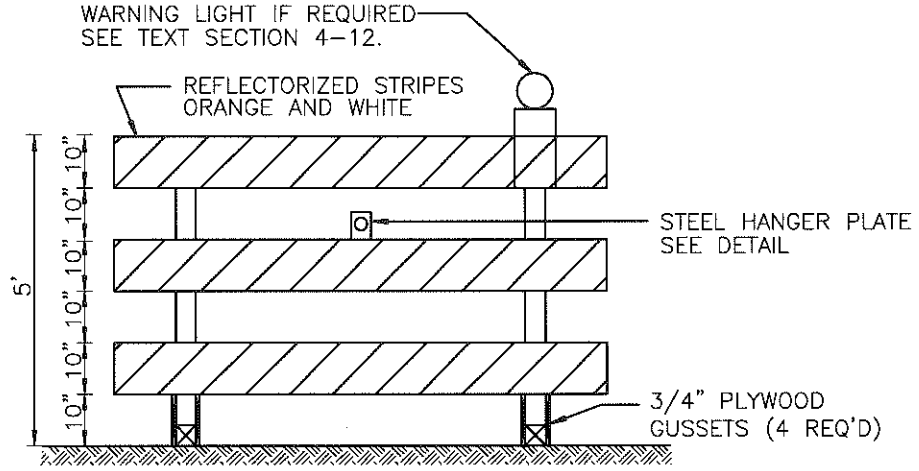
SNOHOMISH COUNTY PUBLIC WORKS

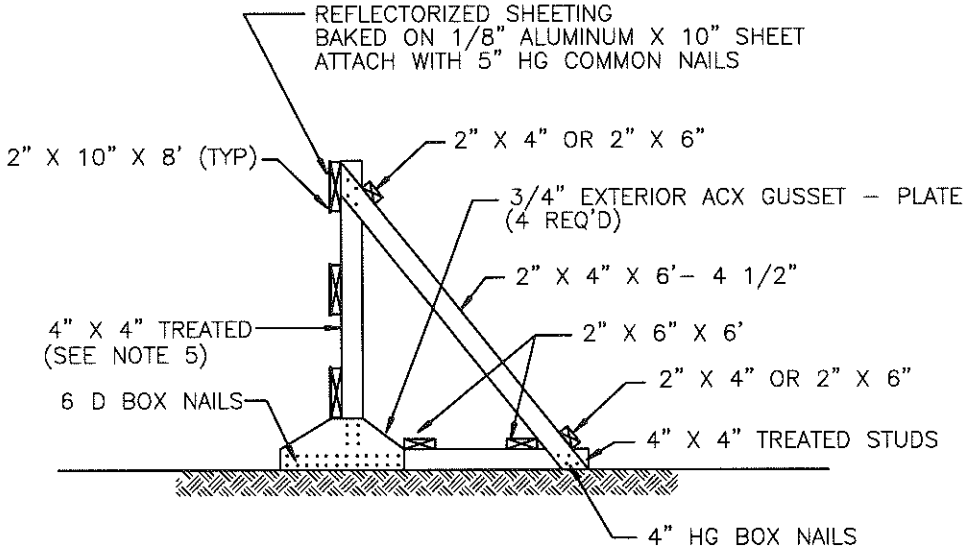
4–180 | BARRICADES – GENERAL

APPROVED BY: Steven E. Thomsen 2-25-03

COUNTY ROAD ENGINEER DATE



FRONT VIEW
(RIGHT (R) BARRICADE SHOWN)



SIDE VIEW

NOTES:

1. BARRICADES SHALL BE INSTALLED IN ACCORDANCE WITH PART VI OF THE MUTCD.

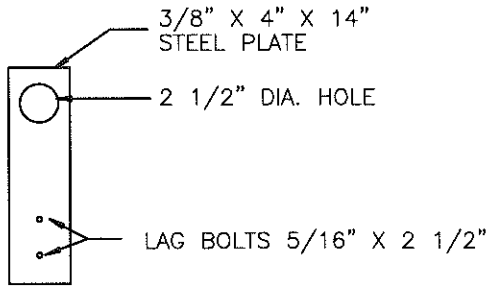
2. LUMBER SHALL BE STANDARD GRADE OR BETTER.

3. RIGHT (R) BARRICADES ARE PLACED TO THE RIGHT OF TRAFFIC. LEFT (L) BARRICADES ARE PLACED TO THE LEFT OF TRAFFIC.

4. WHERE A BARRICADE(S) EXTENDS ENTIRELY ACROSS A ROADWAY, THE STRIPES SHALL SLOPE DOWNWARD IN THE DIRECTION TOWARD WHICH TRAFFIC MUST TURN IN DETOURING. WHERE BOTH RIGHT AND LEFT TURNS ARE PROVIDED, THE CHEVRON STRIPING SHALL SLOPE DOWNWARD IN BOTH DIRECTIONS FROM THE CENTER OF THE BARRICADE.

5. TEMPORARY BARRICADE SHOWN. FOR PERMANENT BARRICADE, DELETE SUPPORT PLATFORM AND REPLACE SUPPORT POSTS TO ENABLE A MINIMUM POST EMBEDMENT OF 3 FEET. POSTS SHALL BE PRESSURE TREATED.

SEE TEXT SECTION 4-12



STEEL HANGER PLATE
DETAIL

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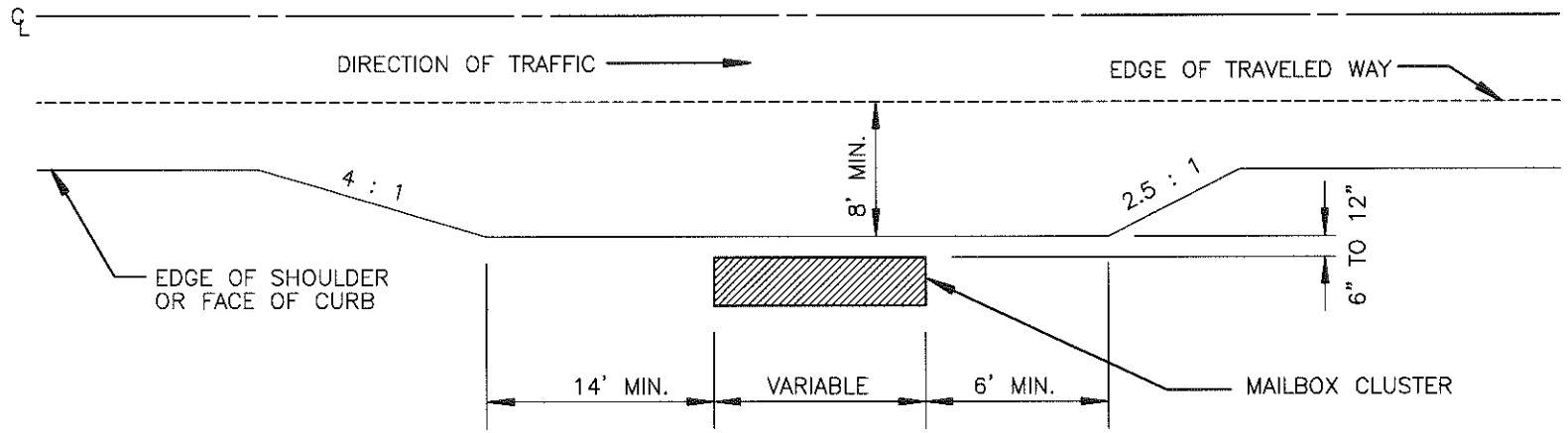
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven E Thomsen 2-25-03
	4-185 TYPE III BARRICADE	COUNTY ROAD ENGINEER DATE



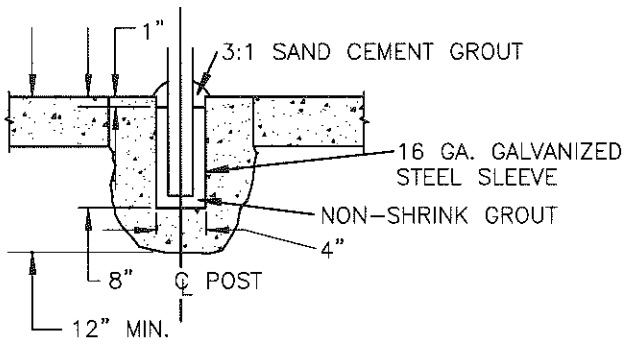
NOTE:

1. FOR COLLECTOR AND ARTERIAL ROADS, OR ANY ROAD WITH A POSTED SPEED LIMIT OF 35 MPH OR ABOVE.

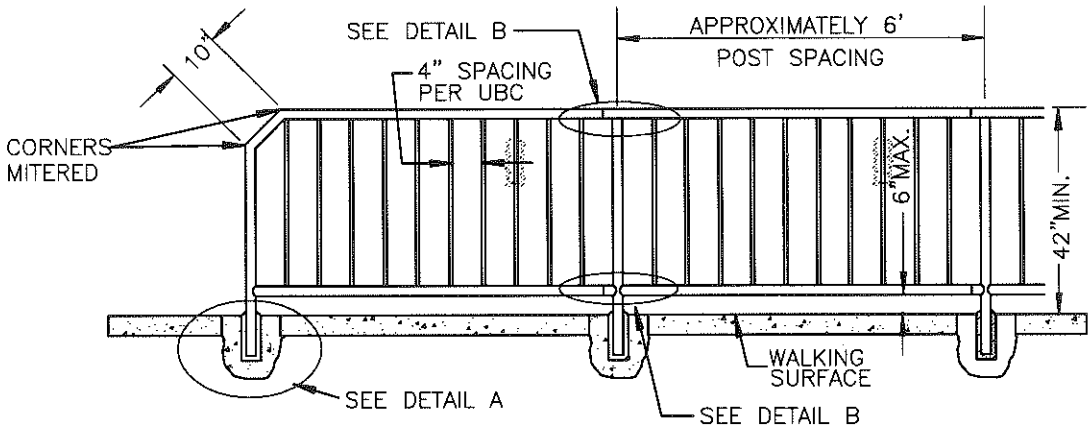
SEE TEXT SECTION 4-13

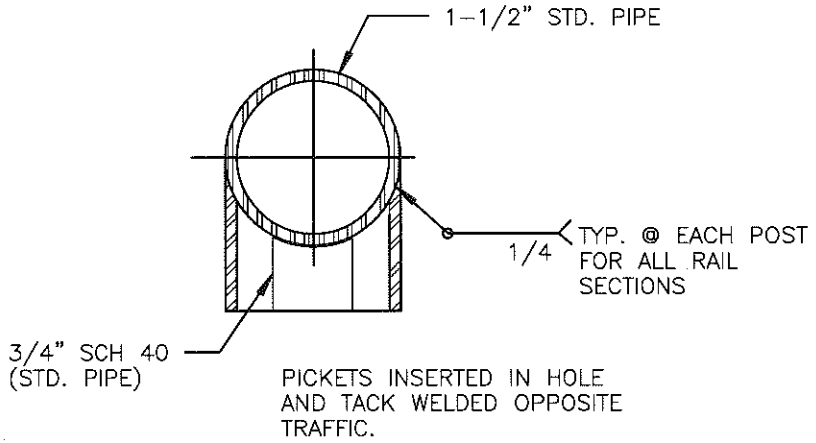
S:\TES\COMMON\EDDS\EDDS DRAWINGS\Ch4\4190.dwg

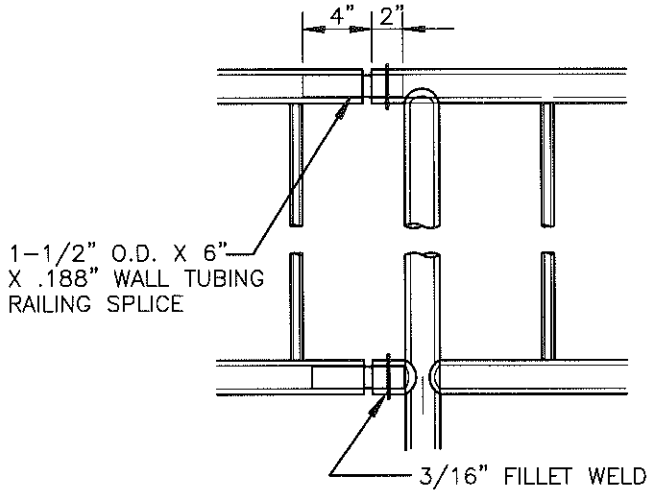
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Stan C Thornsen 2-25-03
	4-190 MAILBOX TURNOUT – COLLECTOR & ARTERIAL	COUNTY ROAD ENGINEER DATE



DETAIL A







DETAIL B

NOTES:

MATERIAL FOR PEDESTRIAN HANDRAIL SHALL BE STEEL (ASTM A120) OR ALUMINUM (ASTM B241 OR B429 ALLOY 6061-T6. MANUFACTURING OF THE HANDRAIL SHALL CONFORM TO STANDARD DRAWING 4-202.

SEE TEXT SECTION 4-16

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	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steve E Thomsen 2-25-03
	4-200 PEDESTRIAN HANDRAIL DETAILS	COUNTY ROAD ENGINEER DATE

PEDESTRIAN RAIL (GALV. STEEL)

GALVANIZED PEDESTRIAN RAIL SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THESE SPECIAL PROVISIONS AND STANDARD DRAWING 4-200.

GALVANIZED STEEL PEDESTRIAN RAIL SHALL CONFORM TO ASTM DESIGNATION A120. ALL WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE AWS D1.1-72. AFTER FABRICATION EACH SECTION OF RAILING SHALL BE HOT-DIPPED GALVANIZED WITH A MINIMUM ZINC COATING OF 2 OUNCES PER SQUARE FOOT. ALL BURRS AND SHARP EDGES SHALL BE REMOVED PRIOR TO GALVANIZING. FIELD WELDS SHALL BE GALVANIZED WITH "GALVALLOY" OR APPROVED EQUIVALENT. PAINTING OF WELDS WILL NOT BE PERMITTED.

HORIZONTAL RAILS AND VERTICAL SUPPORT POSTS SHALL BE 2 INCH DIAMETER AND BALUSTERS SHALL BE 1 INCH DIAMETER STANDARD WEIGHT GALVANIZED STEEL PIPE. RAILS, POSTS & BALUSTERS SHALL BE MACHINE CUT TO PROVIDE A UNIFORM LENGTH PRIOR TO ASSEMBLY.

RAILING SHALL BE ERECTED AND ADJUSTED, IF NECESSARY, TO ASSURE A CONTINUOUS LINE AND GRADE. FINISHED HEIGHT IS TO BE 42 INCHES ABOVE PEDESTRIAN SURFACE. EXPANSION JOINTS SHALL BE PROVIDED AT INTERVALS SHOWN ON THE STANDARD DRAWING.

PEDESTRIAN RAIL (ALUMINUM)

ALUMINUM PEDESTRIAN RAIL SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THESE SPECIAL PROVISIONS AND STANDARD DRAWING 4-200.

ALUMINUM PEDESTRIAN RAIL SHALL BE NATURAL ALUMINUM COLOR.

IF ANODIZATION IS SPECIFIED, ALL ALUMINUM PARTS SHALL BE GIVEN A CLEAR ANODIC COATING AT LEAST 0.0006 INCH THICK AND SHALL BE SEALED TO MEET THE REQUIREMENTS OF ASTM B 136 AND SHALL HAVE A UNIFORM FINISH.

WELDING OF ALUMINUM SHALL BE IN ACCORDANCE WITH THE "STRUCTURAL WELDING CODE- ALUMINUM, AWS D 1.2".

ALL MATERIALS USED IN THE FABRICATION OF ALUMINUM PEDESTRIAN RAIL SHALL MEET THE REQUIREMENTS OF ASTM B241 OR B429 ALLOY 6061-T6 SCHEDULE 40 (STD. PIPE).

HORIZONTAL RAILS AND VERTICAL SUPPORT POSTS SHALL BE 1.9" O.D. AND BALUSTERS SHALL BE 1.05" O.D. STANDARD WEIGHT ALUMINUM PIPE. RAILS, POSTS & BALUSTERS SHALL BE MACHINE CUT TO PROVIDE A UNIFORM LENGTH PRIOR TO ASSEMBLY.

SEE TEXT SECTION 4-16

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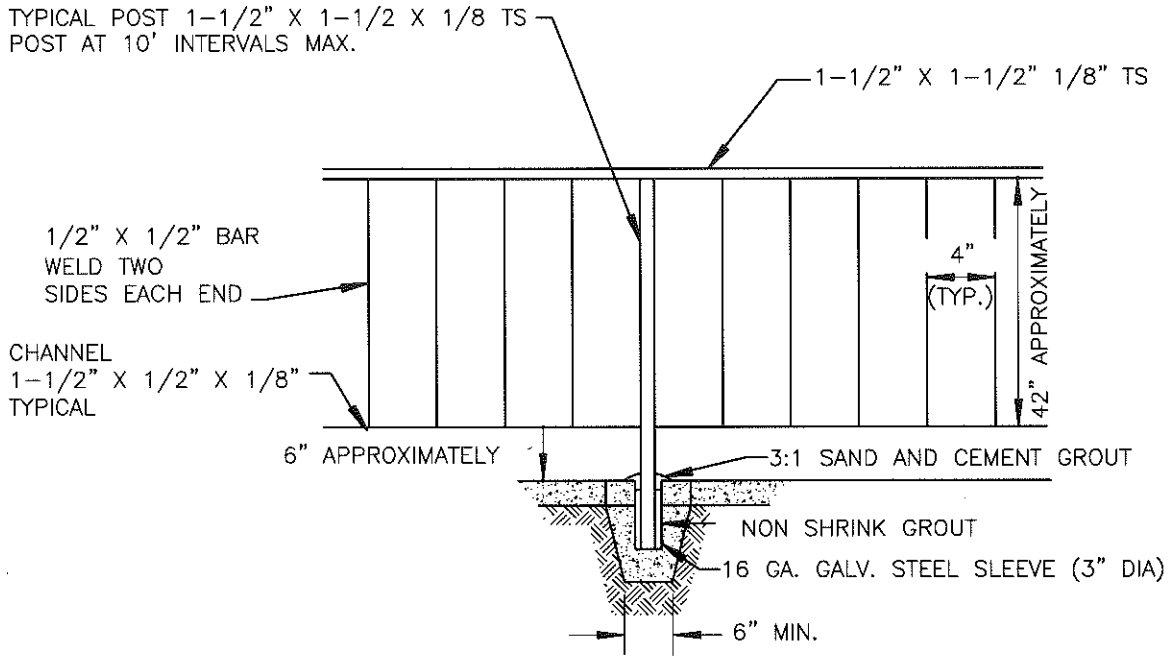
SNOHOMISH COUNTY PUBLIC WORKS

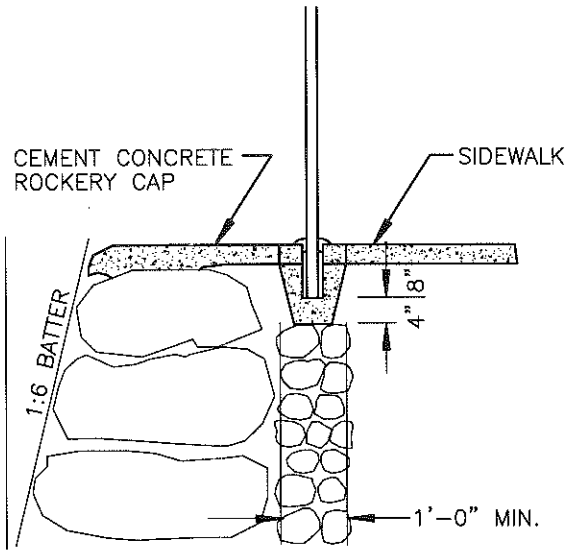
4-202 | PEDESTRIAN HANDRAIL DETAILS

APPROVED BY: Steven E Thomsen 2-25-03

COUNTY ROAD ENGINEER DATE



FRONT VIEW



SIDE VIEW

SEE STANDARD DRAWINGS
FOR ROCKERY DETAILS

NOTES:

1. AFTER FABRICATION, ALL BURRS AND SHARP EDGES SHALL BE REMOVED.

2. APPLY RUST PROOF METAL PRIMER AND ONE COAT OF BLACK ORNAMENTAL IRON METAL PAINT.

SEE TEXT SECTION 4-16

D.L.D.: 3/21/00
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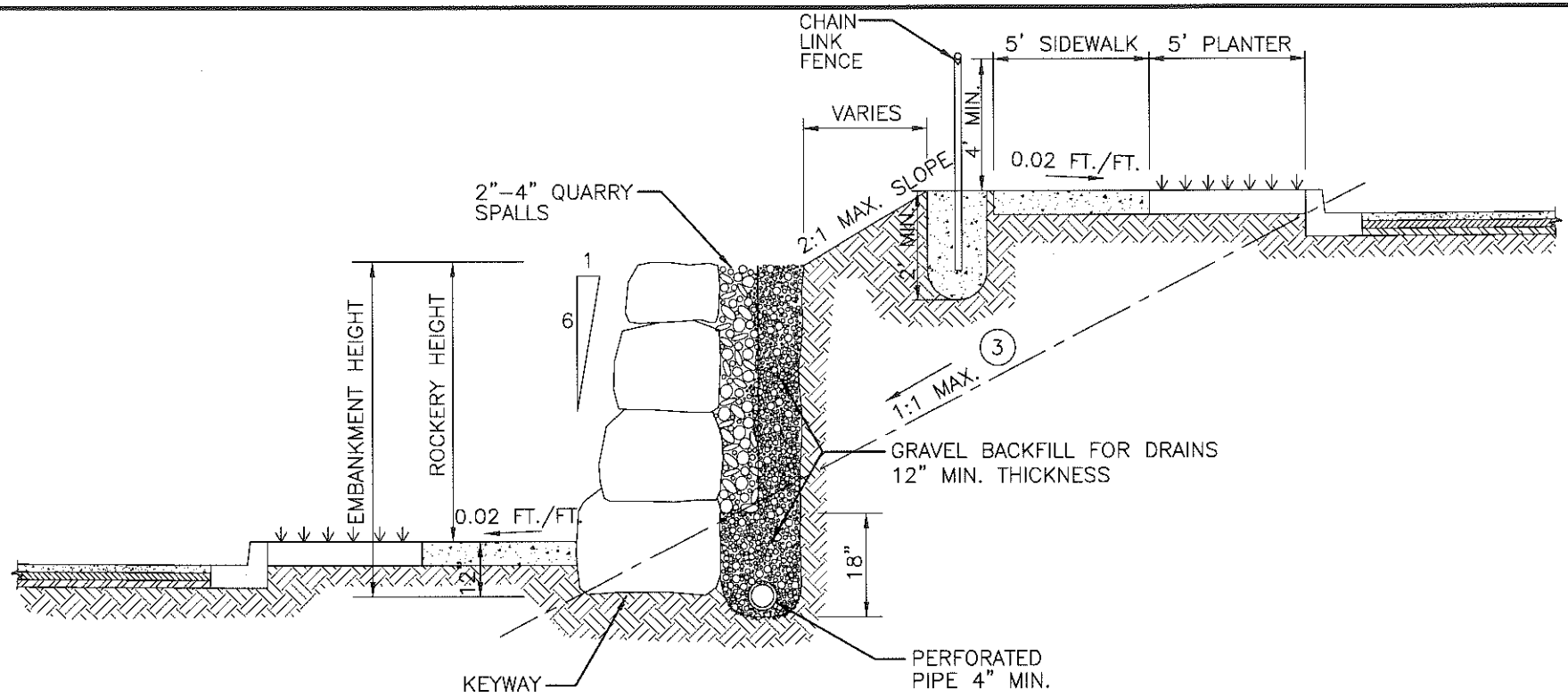
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven E Thomsen 2-25-03
	4-204 ORNAMENTAL HANDRAIL DETAILS	COUNTY ROAD ENGINEER DATE



NOTES:

NOT TO SCALE

1. SEE TEXT SECTION 4–17. ROCKERIES SHALL BE DESIGNED BY A GEOTECHNICAL ENGINEER IF EMBANKMENT HEIGHT EXCEEDS 6 FT. IN A CUT SECTION OR 4 FT. IN A FILL SECTION.

2. GRAVEL BACKFILL SHALL MEET WSDOT/APWA STANDARD SPECIFICATION 9–03.12[4]

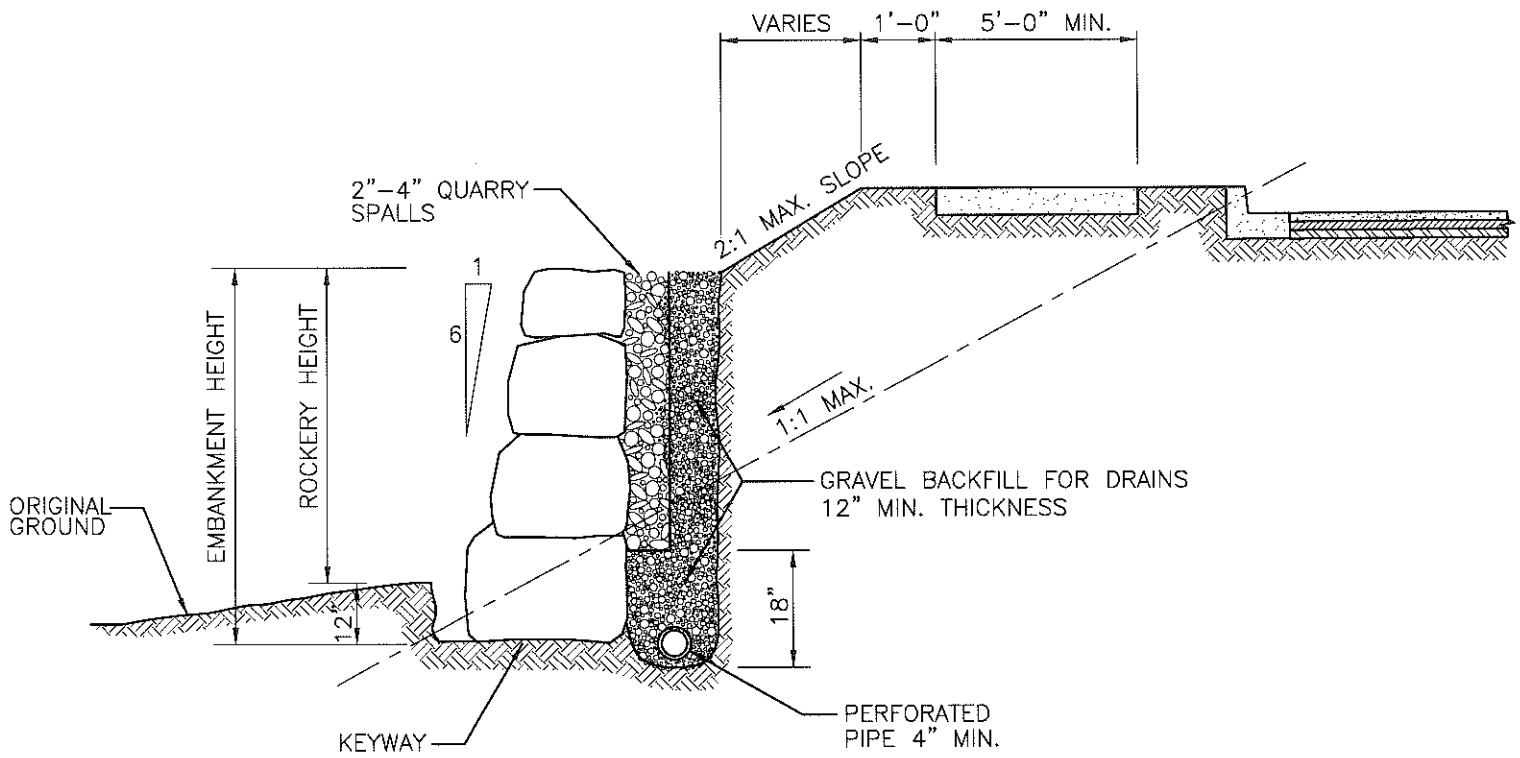
3. FLATTER SLOPE MAY BE REQUIRED IN LESS STABLE SOIL.

4. CHAIN LINK FENCE, TYPE NO. 4 OR 6 (WSDOT/APWA STANDARD), REQUIRED WHEN ROCKERY HEIGHT IS 30 INCHES OR GREATER. VINYL–COATED FENCING IN A DARK, NATURAL COLOR MAY BE USED TO IMPROVE VISUAL APPEARANCE.

5. TRAFFIC BARRIERS MAY BE REQUIRED ON ROADS WITH SPEED LIMITS OF 40 MPH OR GREATER, WHERE ROCKERY HEIGHTS EXCEED 6'. SEE CHAPTER 7 OF THE WSDOT DESIGN MANUAL.

6. IF ROCKERY IS BEHIND A ROLLED CURB OR A RURAL SHOULDER SECTION, THE ROCKERY FACE SHALL BE A MINIMUM OF 10 FT FROM EDGE OF TRAVELED WAY.

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steve E Thomsen 10-1-24
4–210	ROCKERY	COUNTY ROAD ENGINEER DATE



NOT TO SCALE

NOTES:

1. SEE TEXT SECTION 4-17. ROCKERIES SHALL BE DESIGNED BY A GEOTECHNICAL ENGINEER IF THE HEIGHT EXCEEDS 6 FT. IN A CUT SECTION OR 4 FT. IN A FILL SECTION.

2. GRAVEL BACKFILL SHALL MEET WSDOT/APWA STANDARD SPECIFICATION 9-03.12[4]

3. FLATTER SLOPE MAY BE REQUIRED IN LESS STABLE SOIL.

4. CHAIN LINK FENCE, TYPE NO. 4 OR 6 (WSDOT/APWA STANDARD), REQUIRED WHEN ROCKERY HEIGHT IS 3' OR HIGHER.

5. TRAFFIC BARRIERS MAY BE REQUIRED ON ROADS WITH SPEED LIMITS OF 40 MPH OR GREATER, WHERE ROCKERY HEIGHTS EXCEED 6'. SEE CHAPTER 7 OF THE WSDOT DESIGN MANUAL.

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	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steve E Thomas 4-17-03
	4-220 ROCKERY, FILL SECTION	COUNTY ROAD ENGINEER DATE

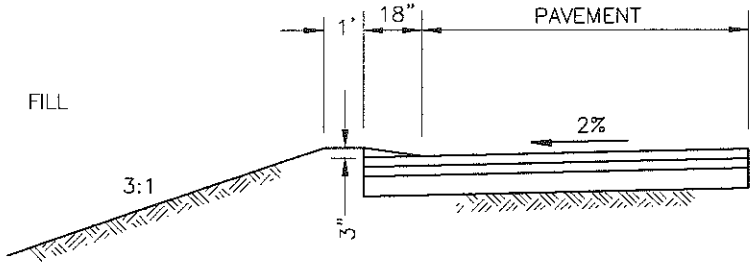
CHAPTER 5 STANDARD DRAWING INDEX

EDDS Standard Drawing No.	Title	REPLACED BY WSDOT Standard Plan No./Other Source
5-010	Shoulder Ditches	
	Interceptor Ditch and Checkdam	BMP C207 1/
5-030	Yard Drain Connections	
	Pipe Zone Bedding and Backfill	B-55.20-00
	Beveled End Sections	B-70.20-00
5-060	Pipe/Culvert Outfall Discharge Protection Pad	
5-070	Grass Swale Dispersion System	
5-080A	Level Spreader Trench – PVC	
5-080B	Level Spreader Trench – Concrete	
5-080C	Level Spreader Trench Notes	
5-085	Diffuser Tee	
5-090	Debris Barrier	
	Catchbasin Type I	B-05.20-00
	Catchbasin Type 1-L	B-05.40-00
	Catchbasin Type 1-P	B-05.60-00
	Catchbasin Type 2	B-10.20-00
	Catchbasin Type 2	B-10.20-00
	Concrete Inlet	B-25.60-00
5-120	Catchbasin Details	
	Manhole Type 1	B-15.20-00
	Manhole Type 2	B-15.40-00
	Manhole Type 3	B-15.60-00
	Manhole Type 4	DELETED
5-170	Manhole Details	
	Rectangular Frame (Reversible)	B-30.10-00
	Rectangular Solid Metal Cover	B-30.20-01
	Rectangular Vaned Grate	B-30.30-00
	Rectangular Bi-Directional Vaned Grate	B-30.40-00
	Combination Inlet	B-25.20-00
5-220A	Rolled Curb Frame & Grate 2/	
5-220B	Rolled Curb Frame & Grate Installation 2/	
5-225	Rolled Curb Vaned Grate 2/	
5-230	Manhole Ring and Cover	
5-240A	Typical Detention Pond	
5-240B	Typical Detention Pond Sections	
5-245	Overflow Structure	
5-250A	Flow Splitter, Option A	
5-250B	Flow Splitter, Option B	
5-260	Flow Restrictor (Baffle)	
5-265	Flow Restrictor (Weir)	
5-270A	Flow Restrictor/Oil Pollution Control - T Restrictor Notes	
5-270B	Flow Restrictor/Oil Pollution Control - T Restrictor	
5-270C	Oil Pollution Control Catchbasin (5-240C)	

5-275	Flow Restrictor/Oil Pollution Control - T Shear Gate Detail (5-250)	
5-280	Typical Detention Vault	
5-290	Typical Detention Tank	
5-295	Detention Tank Access Detail	
5-300A	Sand Filter Vault	
5-300B	Sand Filter Vault	
5-310	API Separator (Baffle type)	
5-315	Coalescing Plate Separator	

1/ Located in the Snohomish County Drainage Manual.

2/ For replacement of existing frames and grates only; not for new installation.



ASPHALT THICKENED EDGE
IN FILL SECTION

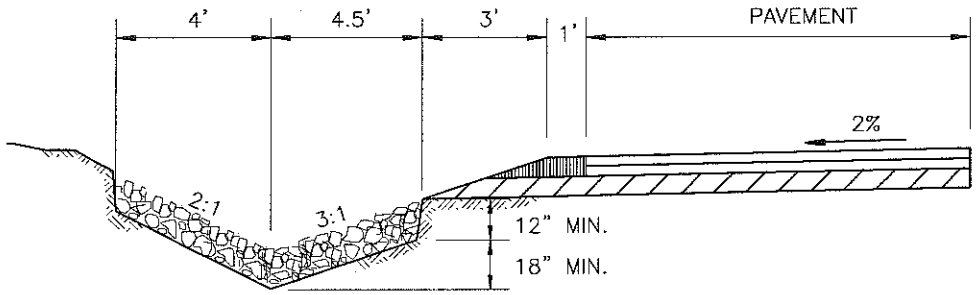
NOTES:

1. ASPHALT THICKENED EDGE MAY BE USED WHERE NO DITCH EXISTS OR A CLOSED DRAINAGE SYSTEM IS LOCATED BENEATH A PAVED SHOULDER.

2. A ROCK-LINED DITCH SHALL BE USED FOR OPEN CHANNEL SYSTEMS WITH GRADIENTS BETWEEN 8% AND 15% INCLUSIVE.

3. STANDARD RECTANGULAR FRAMES AND VANED GRATES SHALL BE USED FOR INLETS AND CATCHBASINS.

SEE TEXT SECTION 5-04



ROCK-LINED SHOULDER DITCH
IN CUT SECTION

CRUSHED SURFACING TOP COURSE

SNOHOMISH COUNTY PUBLIC WORKS		APPROVED BY:
5-010	SHOULDER DITCHES	COUNTY ROAD ENGINEER — DATE 9/23/10

NOTES:

1. YARD DRAINS TO BE CONSTRUCTED FROM HIGH DENSITY POLYETHYLENE (HDPE) N-12 PIPE IN ACCORDANCE WITH ASTM C 14.

2. CUTOUT HOLE SIZE IS EQUAL TO OUTLET PIPE OUTSIDE DIAMETER PLUS YARD DRAIN WALL THICKNESS.

3. CONNECTION TO OUTLET PIPE TO BE MORTARED AND MADE FLUSH WITH INSIDE OF THE YARD DRAIN WALL.

4. CAST IRON BELL GRATE. FITS INTO BELL RECESS AND EXTENDS FLUSH WITH FACE OF BELL. THE GRATE SHALL HAVE SLOTS (HOLES) THAT CONSTITUTE 50 PERCENT OPEN AREA FOR DRAINAGE. INLET BELL SURFACE SHALL BE FINISHED TO ASSURE NON-ROCKING FIT WITH ANY COVER POSITION.

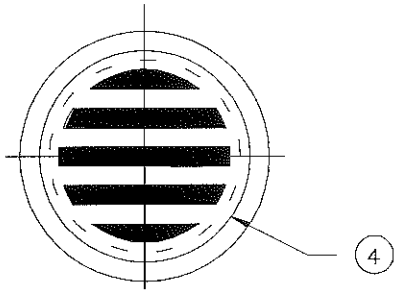
5. WASHED DRAIN ROCK. 6 INCHES MINIMUM DEPTH.

6. VARIES 12 INCHES OR 18 INCHES.

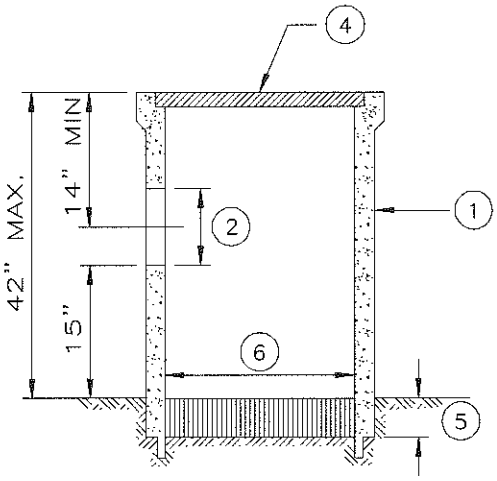
7. SPECIAL CAST YARD DRAIN MAY BE REQUIRED FOR MULTIPLE PIPE CONNECTIONS.

8. CLEAN OUTS ARE REQUIRED FOR DEPTHS OVER 42 INCHES.

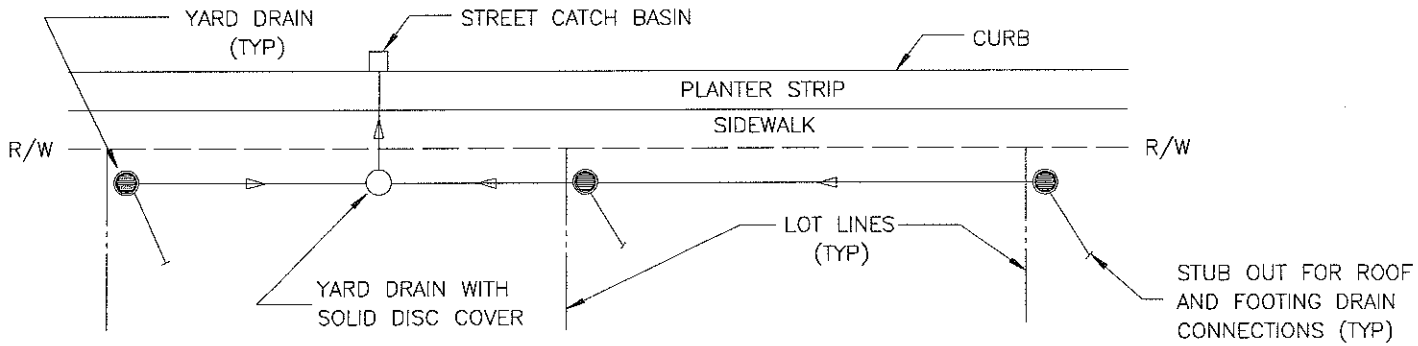
SEE TEXT SECTION 5-05.



PLAN VIEW

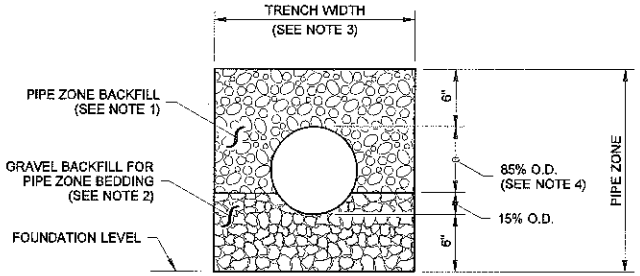


ELEVATION VIEW

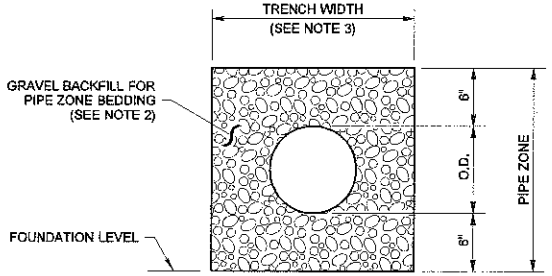


TYPICAL LOT PLACEMENT

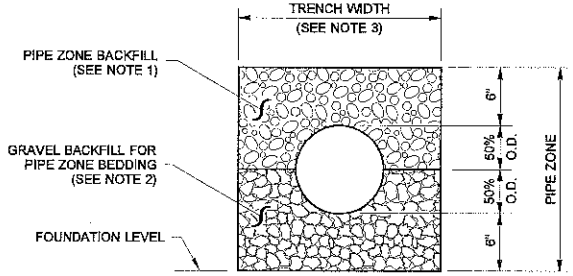
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY:
	5-030 YARD DRAIN CONNECTIONS	COUNTY ROAD ENGINEER — DATE 9/23/10



CONCRETE AND DUCTILE IRON PIPE



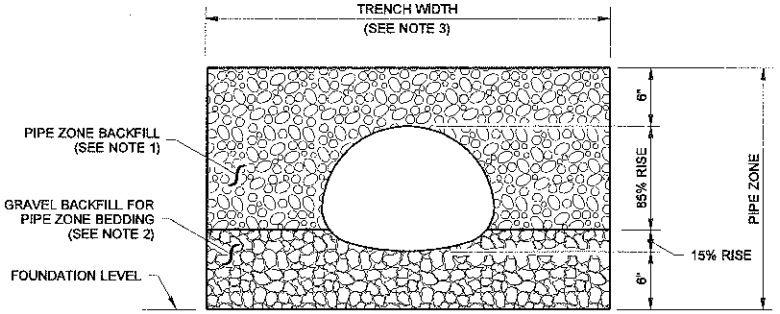
THERMOPLASTIC PIPE



METAL PIPE

NOTES

1. See Standard Specifications Section 7-08.3(3) for Pipe Zone Backfill.
2. See Standard Specifications Section 9-03.12(3) for Gravel Backfill for Pipe Zone Bedding.
3. See Standard Specifications Section 2-09.4 for Measurement of Trench Width.
4. For sanitary sewer installation, concrete pipe shall be bedded to spring line.



PIPE ARCHES

CLEARANCE BETWEEN PIPES FOR MULTIPLE INSTALLATIONS		
PIPE	**SIZE**	**MINIMUM DISTANCE BETWEEN BARRELS**
CIRCULAR PIPE (DIAMETER)	12" to 24"	12"
	30" to 96"	DIAM. /2
	102" to 180"	48"
PIPE ARCH (SPAN) METAL ONLY	18" to 36"	12"
	43" to 142"	SPAN /3
	148" to 200"	48"

EXPIRES JULY 4, 2007

NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT IF IT IS AN ELECTRONIC DUPLICATE. THE ORIGINAL, SIGNED BY THE ENGINEER AND APPROVED FOR PUBLICATION, IS KEPT ON FILE AT THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. A COPY MAY BE OBTAINED UPON REQUEST.

PIPE ZONE BEDDING AND BACKFILL

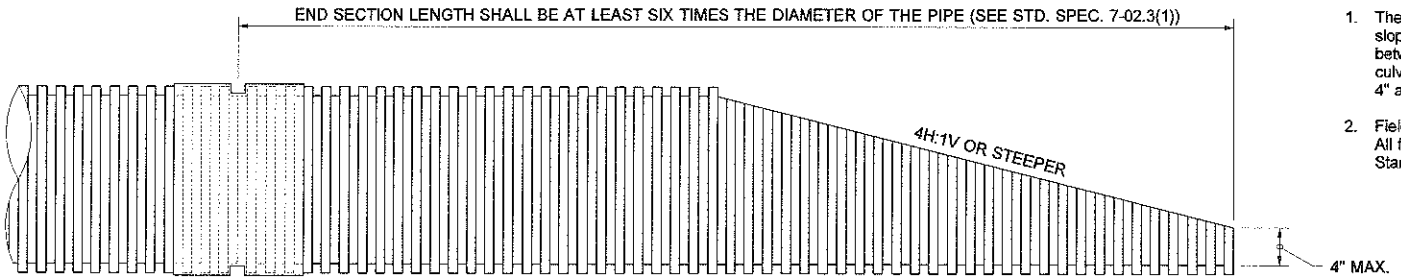
STANDARD PLAN B-55.20-00

SHEET 1 OF 1 SHEET

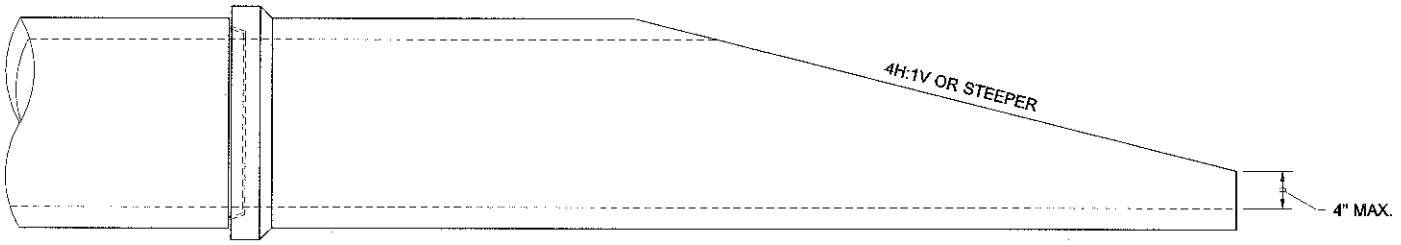
APPROVED FOR PUBLICATION

Harold J. Peterfeso — STATE DESIGN ENGINEER — *06-01-06* — DATE

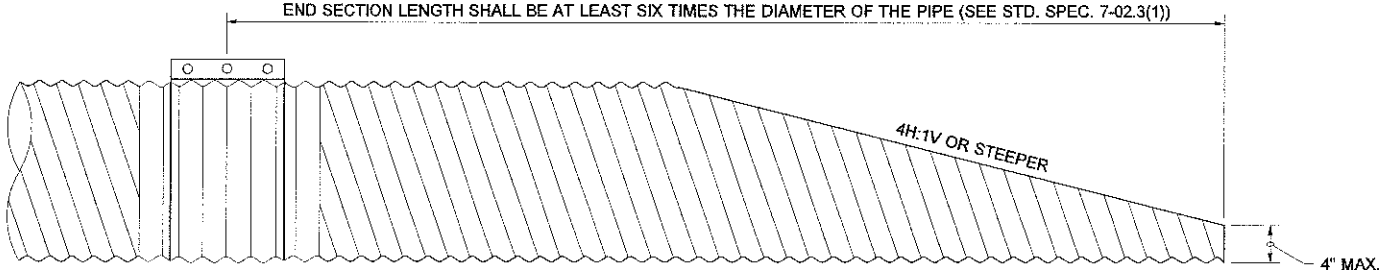
Washington State Department of Transportation



THERMOPLASTIC PIPE



CONCRETE PIPE

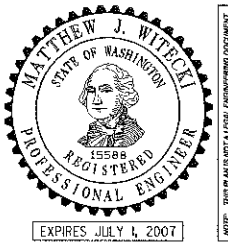


METAL PIPE

NOTES

1. The culvert ends shall be beveled to match the embankment or ditch slope and shall not be beveled flatter than 4H:1V. When slopes are between 4H:1V and 6H:1V, shape the slope in the vicintiy of the culvert end to ensure that no part of the culvert protrudes more than 4" above the ground line.
2. Field cutting of culvert ends is permitted when approved by the Engineer. All field-cut culvert pipe shall be treated with treatment as shown in the Standard Specifications or General Special Provisions.

FOR CULVERTS 30" DIAMETER OR LESS



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BEVELED END SECTIONS

STANDARD PLAN B-70.20-00

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

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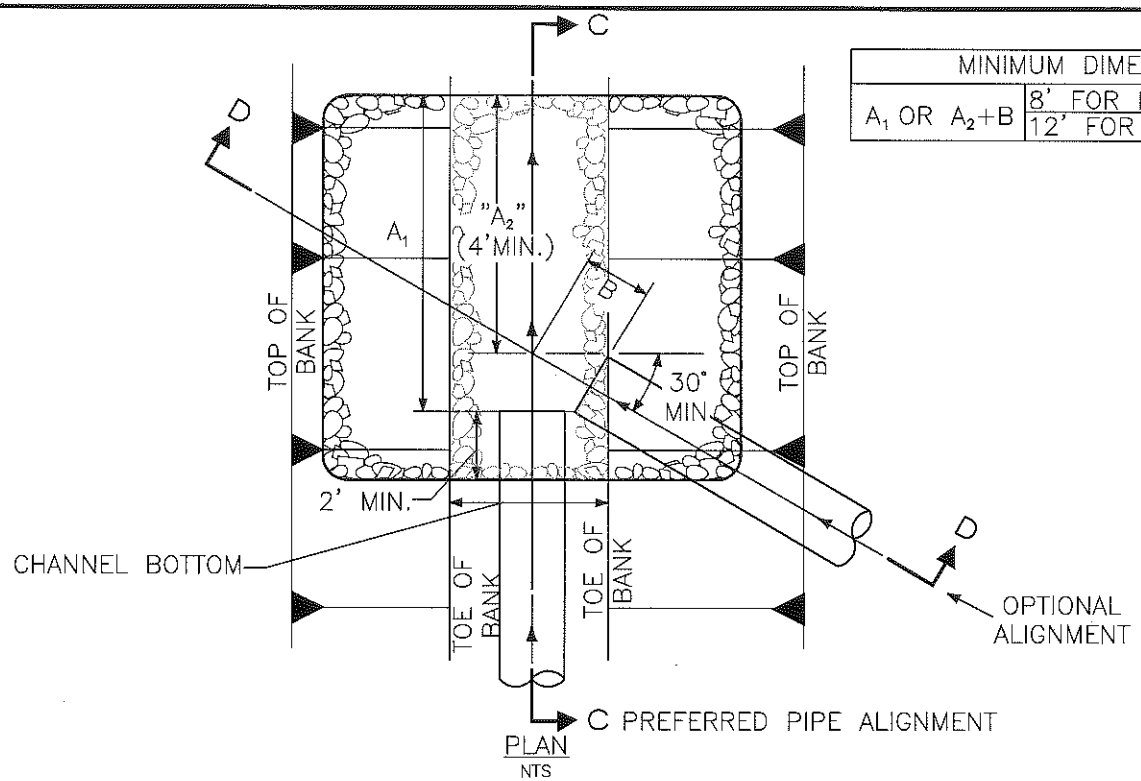
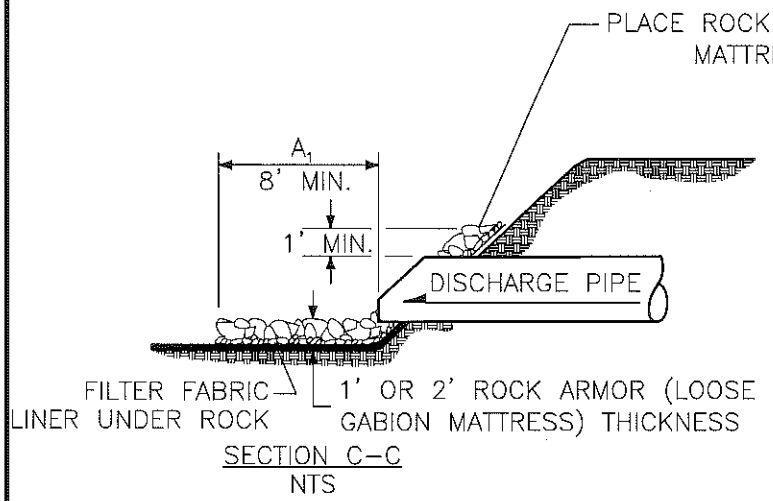
Washington State Department of Transportation

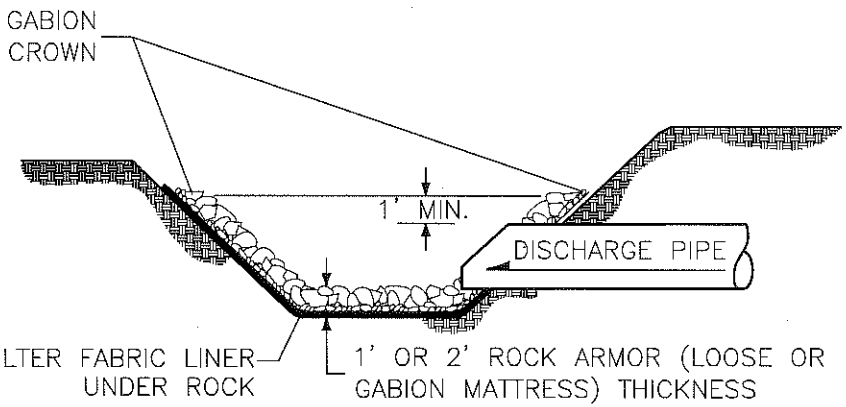
MINIMUM DIMENSIONS	
A_1 OR A_2+B	8' FOR ROCK LINING 12' FOR RIP RAP



PLAN
NTS



SECTION C–C
NTS



SECTION D–D
NTS

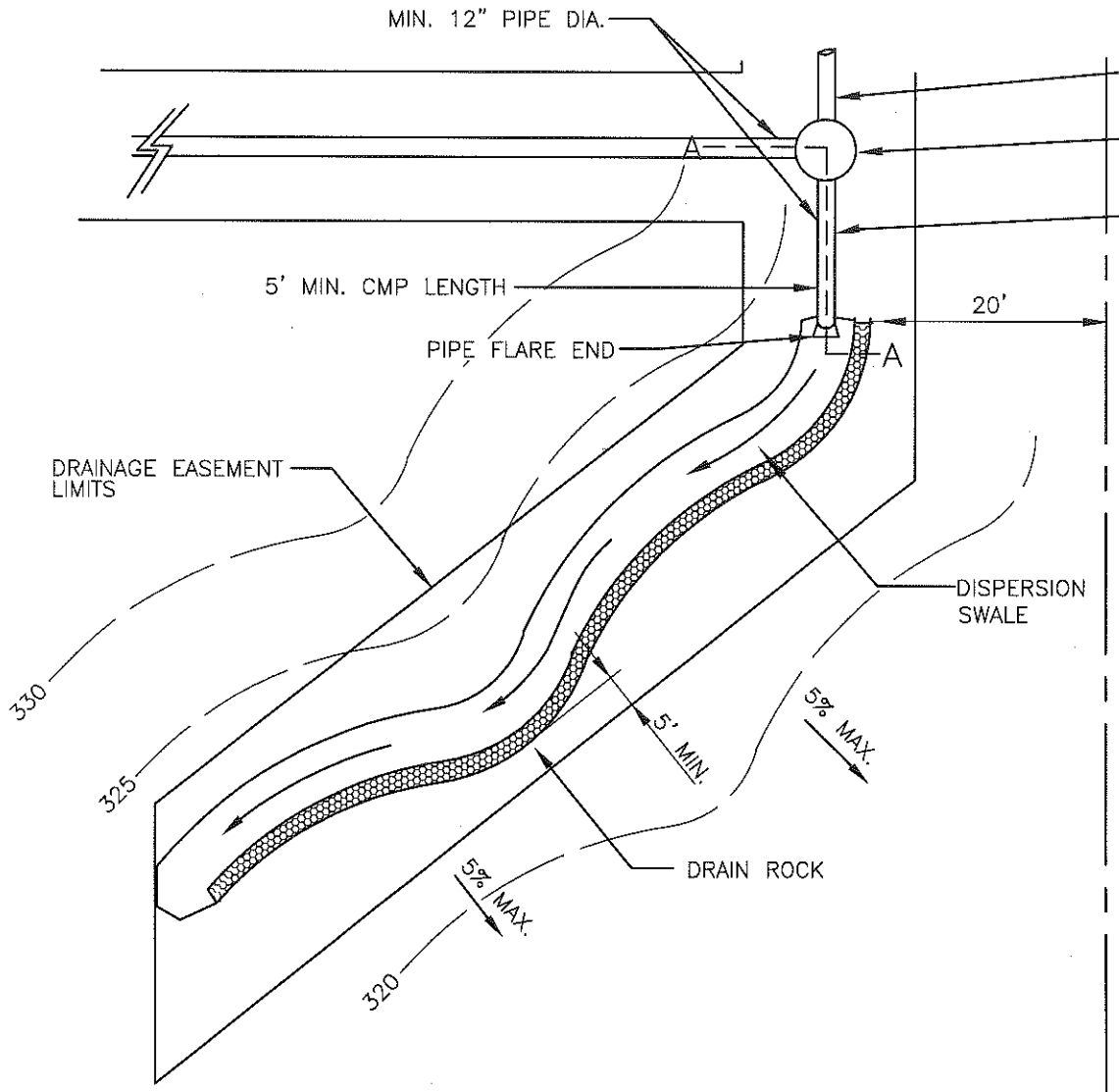
SNOHOMISH COUNTY PUBLIC WORKS

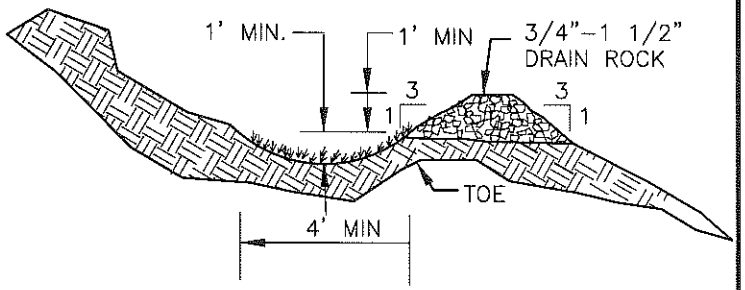
5–060 | PIPE/CULVERT OUTFALL DISCHARGE PROTECTION PAD

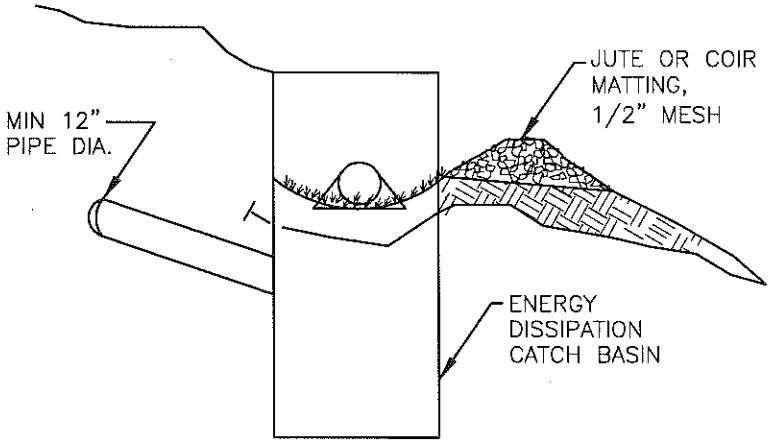
APPROVED BY:

COUNTY ROAD ENGINEER

9/23/10
DATE





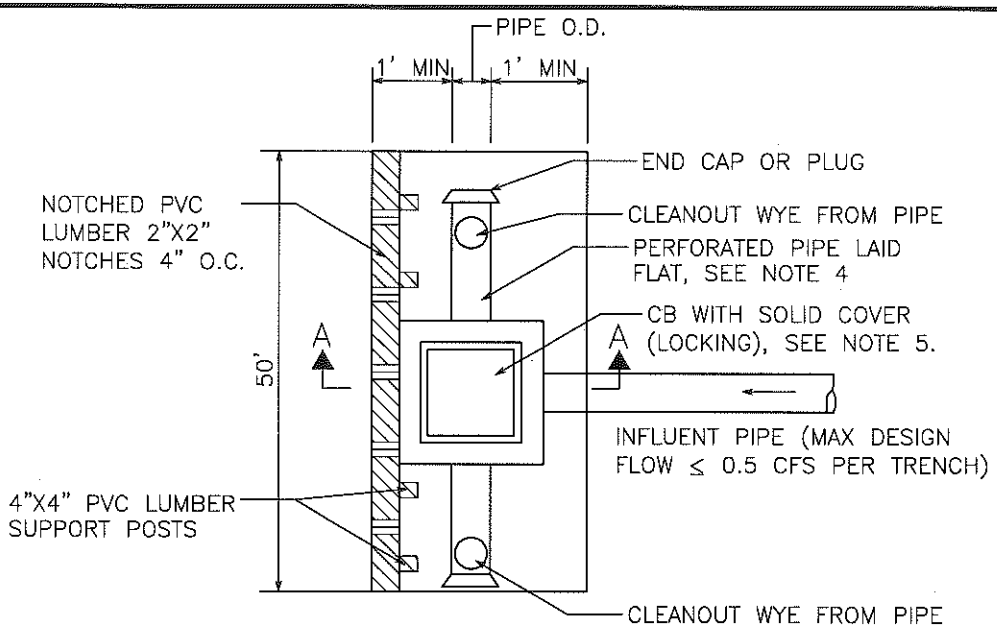


SECTION A–A

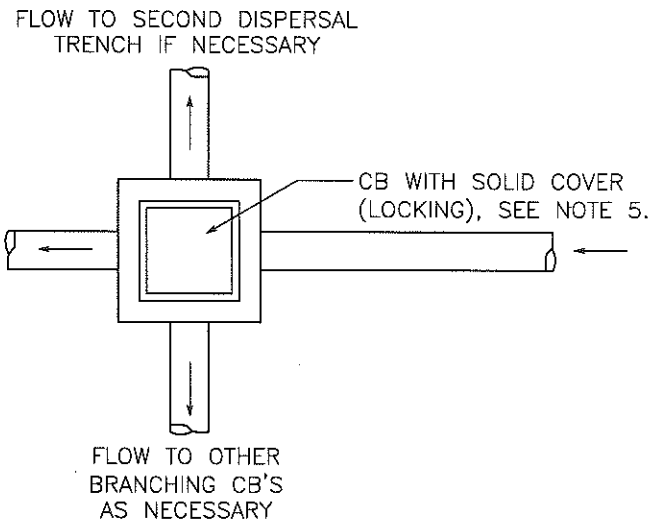
NOTES:

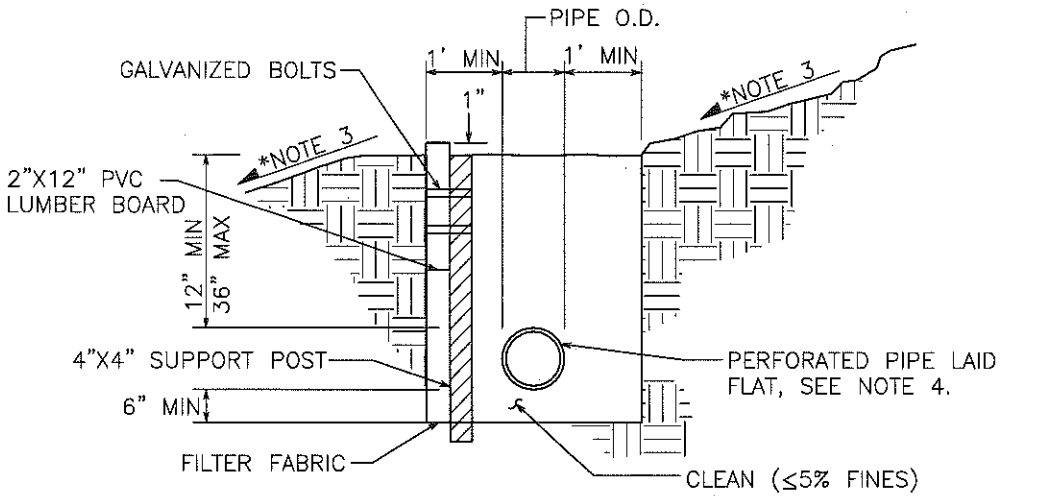
1. SEE TEXT SECTION 5–05.
2. MINIMUM SWALE LENGTH IS 10 FT DOWNSTREAM FROM SPREADER.

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: 9/23/10
	5–070 GRASS SWALE DISPERSION SYSTEM	COUNTY ROAD ENGINEER DATE



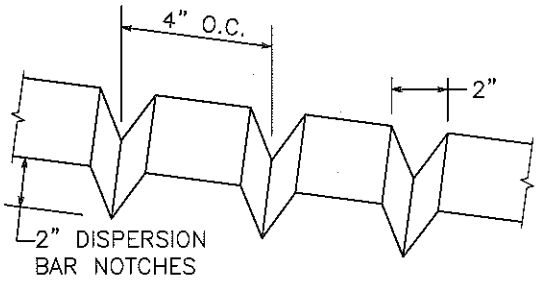
PLAN
NTS



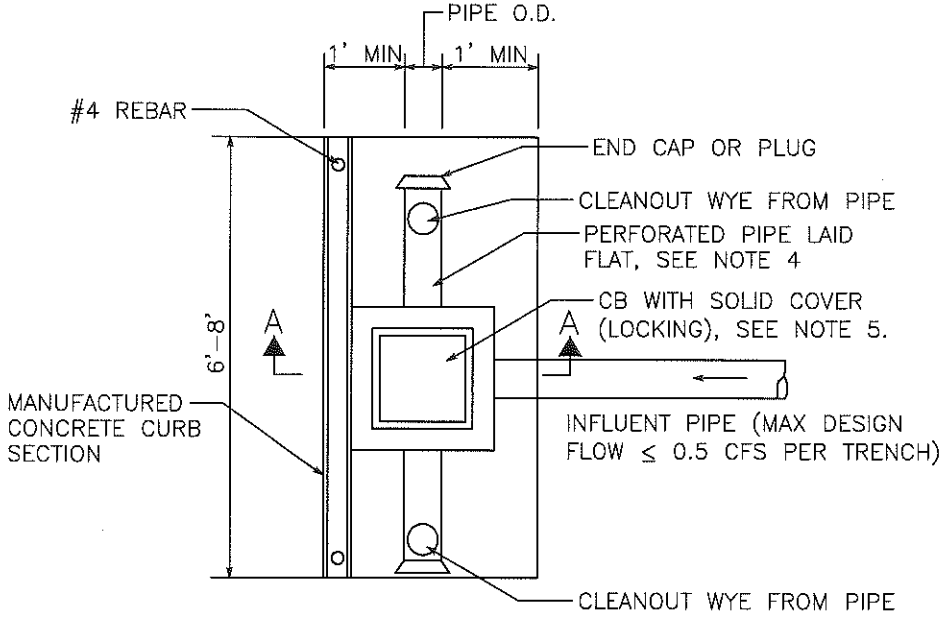


SECTION A–A
NTS

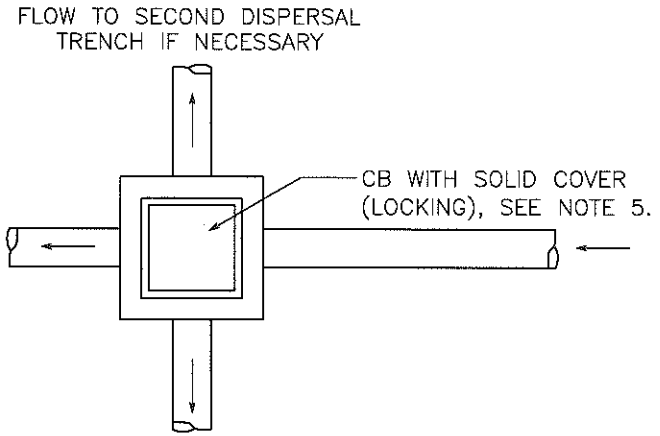
*15% MAX FOR FLOW CONTROL/WATER QUALITY TREATMENT IN RURAL AREAS.

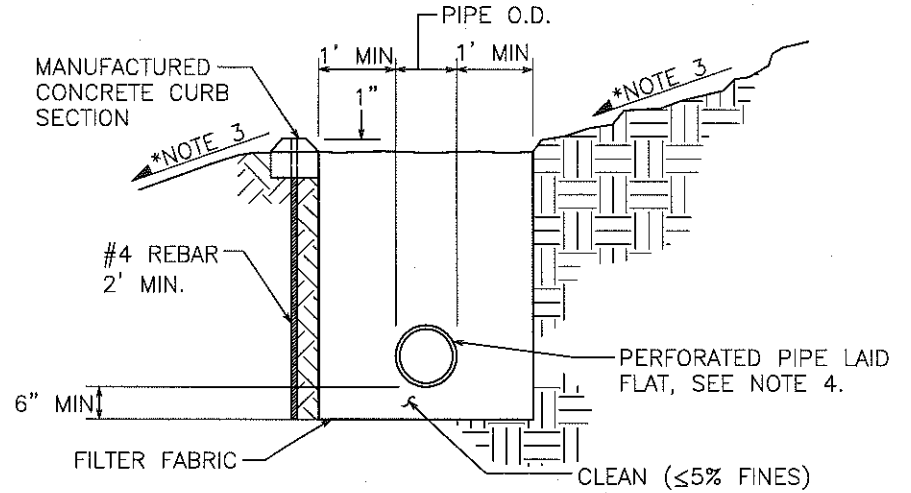


	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: 9/23/10
5–080A	LEVEL SPREADER TRENCH–PVC	COUNTY ROAD ENGINEER — DATE



PLAN
NTS





*15% MAX FOR FLOW CONTROL/WATER QUALITY TREATMENT IN RURAL AREAS.

SECTION A-A
NTS

SNOHOMISH COUNTY PUBLIC WORKS		APPROVED BY: 9/23/10
5-080B	LEVEL SPREADER TRENCH-CONCRETE	COUNTY ROAD ENGINEER DATE

NOTES:

1. TRENCH SHALL BE CONSTRUCTED TO PREVENT POINT DISCHARGE AND/OR EROSION.

2. MINIMUM SEPARATION BETWEEN TRENCHES SHALL BE 50 FT LATERALLY AND 100 FT ALONG THE DISCHARGE FLOWPATH.

3. SEE TEXT SECTION 5-05 FOR SLOPE SPECIFICATIONS.

4. PERFORATED PIPE MINIMUM DIAMETERS:
   - 4 IN. FOR TRENCH SERVING 1 DWELLING UNIT.
   - 6 IN. FOR 2 DWELLING UNITS.
   - 8 IN. FOR 3 DWELLING UNITS.
   - 12 IN. FOR 4 OR MORE DWELLING UNITS.

5. TYPE 1 CB MAY BE USED FOR TRENCH SERVING 1-3 DWELLING UNITS. TYPE 2 CB IS REQUIRED FOR 4 OR MORE DWELLING UNITS FOR ENERGY DISSIPATION.

PVC LUMBER OPTION (STD DWG 5-080A):

6. TRENCH AND PVC LUMBER DISPERSION BAR MUST BE LEVEL. ALIGN TO FOLLOW CONTOURS OF SITE.

7. PVC LUMBER SUPPORT POST SPACING SHALL BE 4 FT MAXIMUM, ON CENTER, UNLESS SOIL CONDITIONS ALLOW WIDER SPACING.

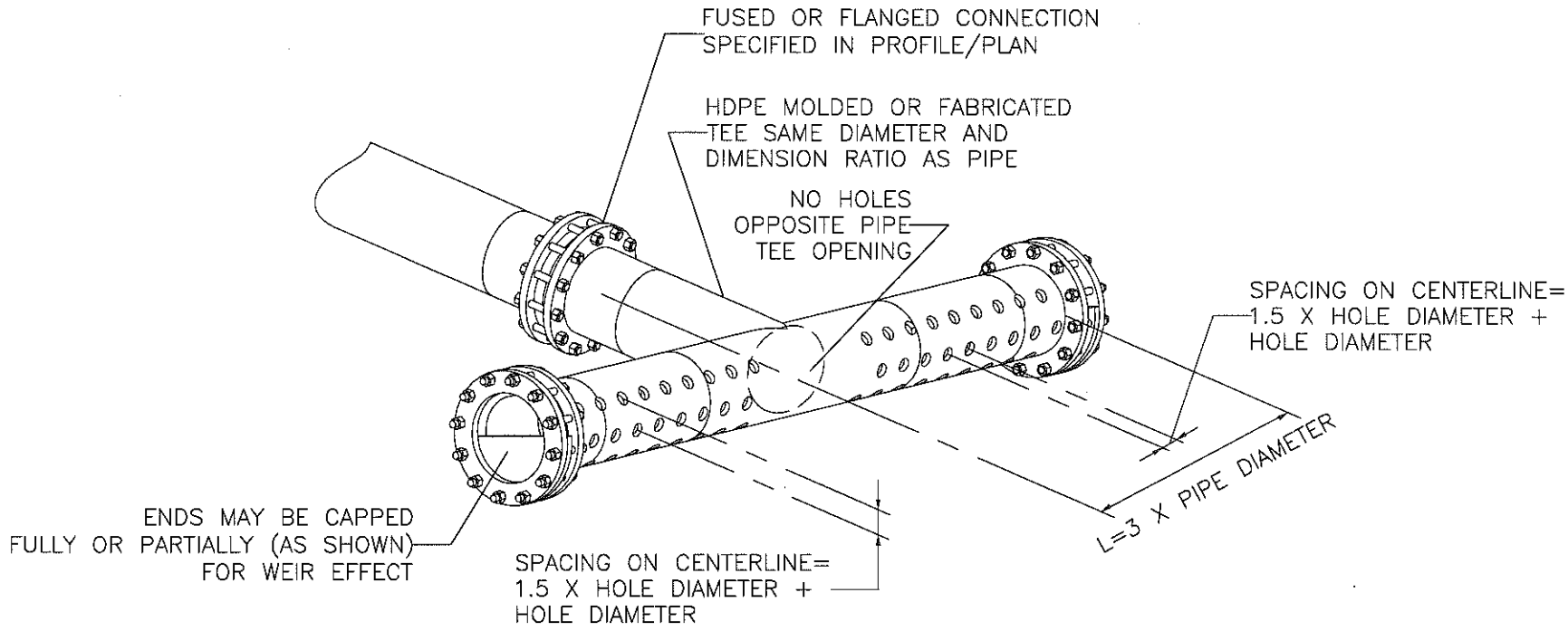
CONCRETE WHEEL STOP/CURB OPTION (STD DWG 5-080B):

6. TRENCH AND CONCRETE WHEEL STOP OR CURB SECTIONS MUST BE LEVEL. ALIGN TO FOLLOW CONTOURS OF SITE.

7. EACH CURB SECTION SHALL BE ANCHORED AT EACH END BY A #4 REBAR ROD AT LEAST 2 FT LONG. EACH ROD SHALL BE BENT 90 DEGREES AT 2 INCHES FROM THE TOP END TO PREVENT CURB MOVEMENT.

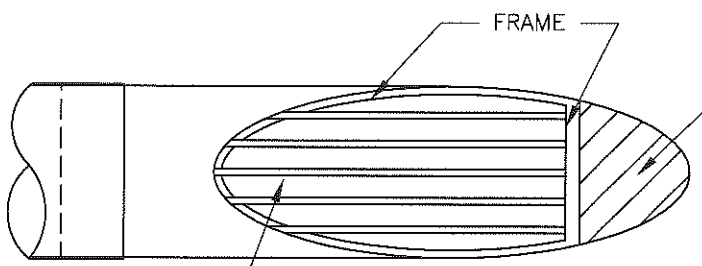
8. JOINTS BETWEEN THE CONCRETE WHEEL STOP OR CURB SECTIONS SHALL BE MORTARED.

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: 9/23/10
5-080C	LEVEL SPREADER TRENCH NOTES	COUNTY ROAD ENGINEER — DATE



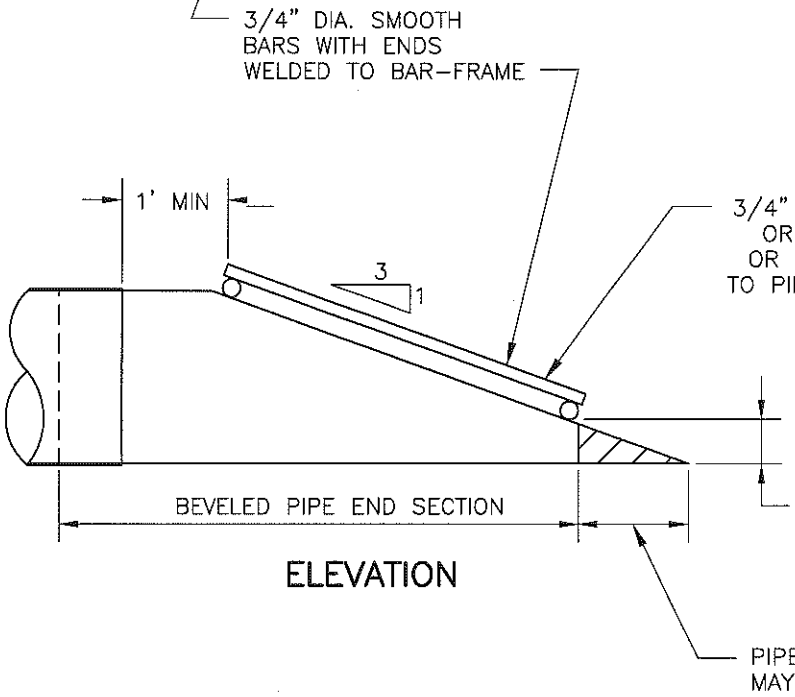
DRILL HOLES IN FRONT HALF OF TEE ONLY.
HOLE DIAMETER (INCHES) =
TEE PIPE DIAMETER DIVIDED BY 6
(EX.: 6 INCH TEE = 1 INCH HOLES
18 INCH TEE = 3 INCH HOLES)

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: 9/23/10
5-085	DIFFUSER TEE	COUNTY ROAD ENGINEER DATE

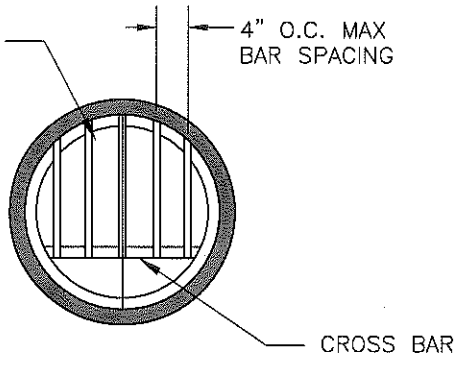


PLAN VIEW

NOTES:
1. CMP END SECTIONS SHOWN.
2. ALL PARTS SHALL BE ALUMINUM OR STAINLESS STEEL.



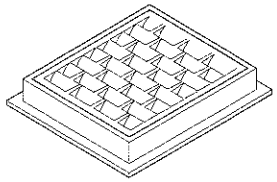
ELEVATION



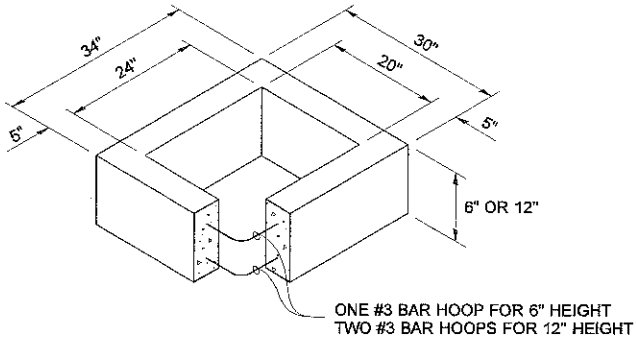
END VIEW

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: 9/23/10
5-090	DEBRIS BARRIER	COUNTY ROAD ENGINEER — DATE

DRAWN BY: MARK SUJKA



FRAME AND VANED GRATE



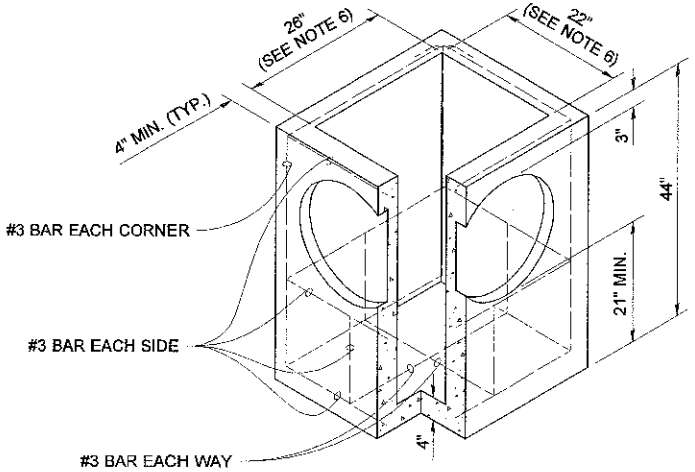
RECTANGULAR ADJUSTMENT SECTION

PIPE ALLOWANCES	
PIPE MATERIAL	MAXIMUM INSIDE DIAMETER
REINFORCED OR PLAIN CONCRETE	12"
ALL METAL PIPE	15"
CPSSP * (STD. SPEC. 9-05.20)	12"
SOLID WALL PVC (STD. SPEC. 9-05.12(1))	15"
PROFILE WALL PVC (STD. SPEC. 9-05.12(2))	15"

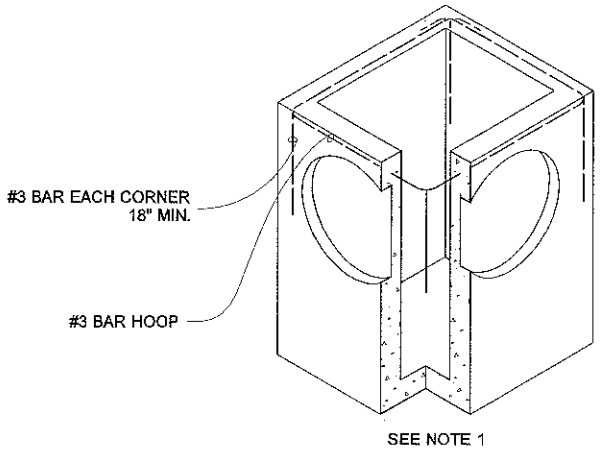
* CORRUGATED POLYETHYLENE STORM SEWER PIPE

NOTES

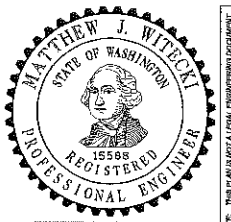
1. As acceptable alternatives to the rebar shown in the **PRECAST BASE SECTION**, fibers (placed according to the Standard Specifications), or wire mesh having a minimum area of 0.12 square inches per foot shall be used with the minimum required rebar shown in the **ALTERNATIVE PRECAST BASE SECTION**. Wire mesh shall not be placed in the knockouts.
2. The knockout diameter shall not be greater than 20". Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum. Provide a 1.5" minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with Standard Specification 9-04.3.
3. The maximum depth from the finished grade to the lowest pipe invert shall be 5'.
4. The frame and grate may be installed with the flange up or down. The frame may be cast into the adjustment section.
5. The Precast Base Section may have a rounded floor, and the walls may be sloped at a rate of 1:24 or steeper.
6. The opening shall be measured at the top of the precast base section.
7. All pickup holes shall be grouted full after the basin has been placed.



PRECAST BASE SECTION



ALTERNATIVE PRECAST BASE SECTION



CATCH BASIN TYPE 1

STANDARD PLAN B-5.20-00

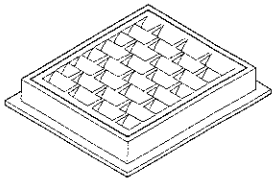
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

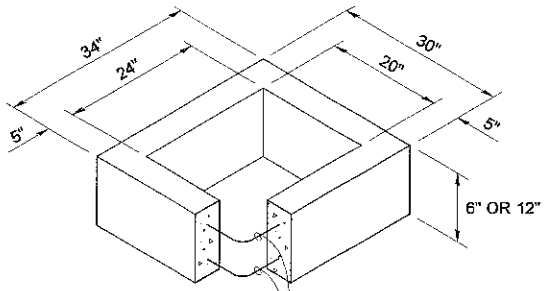
Harold J. Peterfeso — STATE DESIGN ENGINEER — *06-01-06* — DATE

Washington State Department of Transportation

DRAWN BY: MARK SUJKA



FRAME AND VANED GRATE



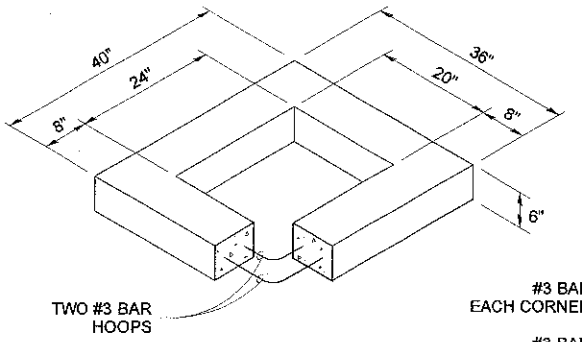
RECTANGULAR ADJUSTMENT SECTION

PIPE ALLOWANCES	
PIPE MATERIAL	MAXIMUM INSIDE DIAMETER
REINFORCED OR PLAIN CONCRETE	18"
ALL METAL PIPE	21"
CPSSP * (STD. SPEC. 9-05.20)	18"
SOLID WALL PVC (STD. SPEC. 9-05.12(1))	21"
PROFILE WALL PVC (STD. SPEC. 9-05.12(2))	21"

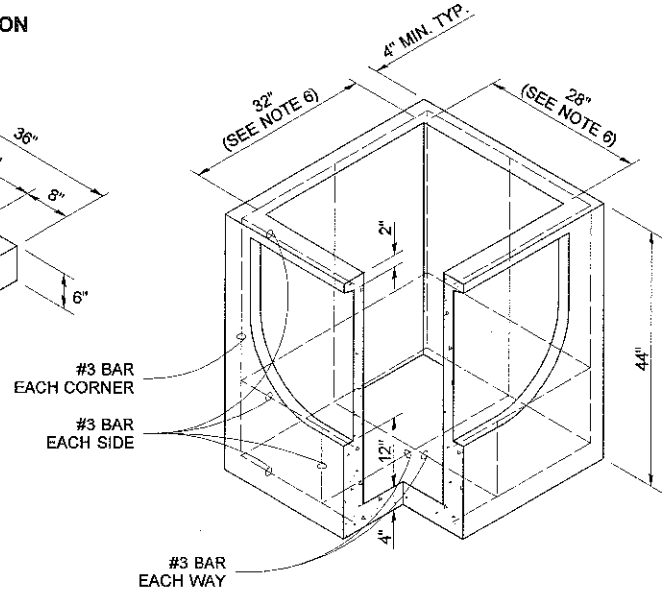
* CORRUGATED POLYETHYLENE STORM SEWER PIPE

NOTES

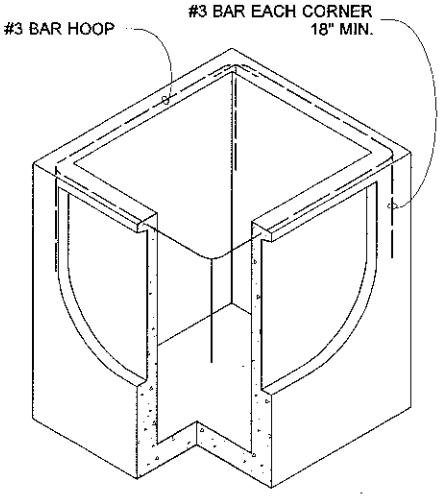
1. As acceptable alternatives to the rebar shown in the **PRECAST BASE SECTION**, fibers (placed according to the Standard Specifications), or wire mesh having a minimum area of 0.12 square inches per foot shall be used with the minimum required rebar shown in the **ALTERNATIVE PRECAST BASE SECTION**. Wire mesh shall not be placed in the knockouts.
2. The knockout diameter shall not be greater than 26". Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum. Provide a 1.5" minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with Standard Specification 9-04.3.
3. The maximum depth from the finished grade to the lowest pipe invert shall be 5'.
4. The frame and grate may be installed with the flange up or down. The frame may be cast into the adjustment section.
5. The Precast Base Section may have a rounded floor, and the walls may be sloped at a rate of 1:24 or steeper.
6. The opening shall be measured at the top of the precast base section.
7. All pickup holes shall be grouted full after the basin has been placed.



REDUCING SECTION

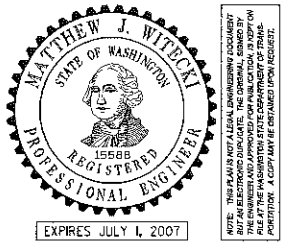


PRECAST BASE SECTION



SEE NOTE 1

ALTERNATIVE PRECAST BASE SECTION



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CATCH BASIN TYPE 1L

STANDARD PLAN B-5.40-00

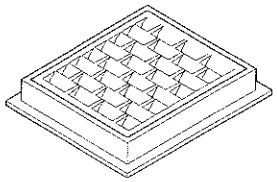
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

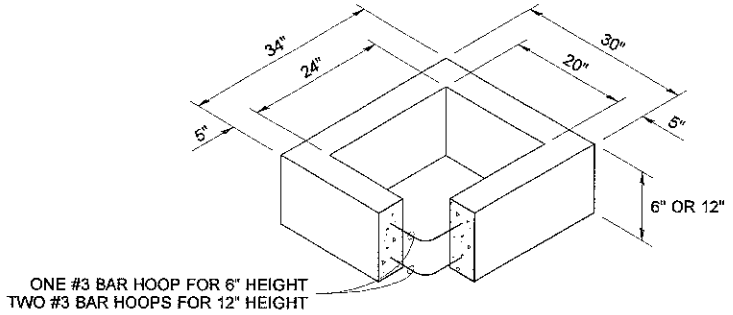
Harold J. Peterfeso — STATE DESIGN ENGINEER — *06-01-06* — DATE

Washington State Department of Transportation

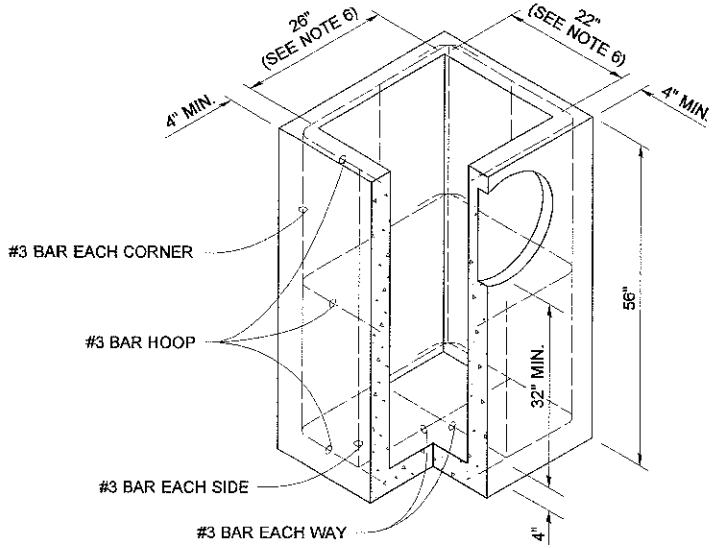
DRAWN BY: MARK SUJKA



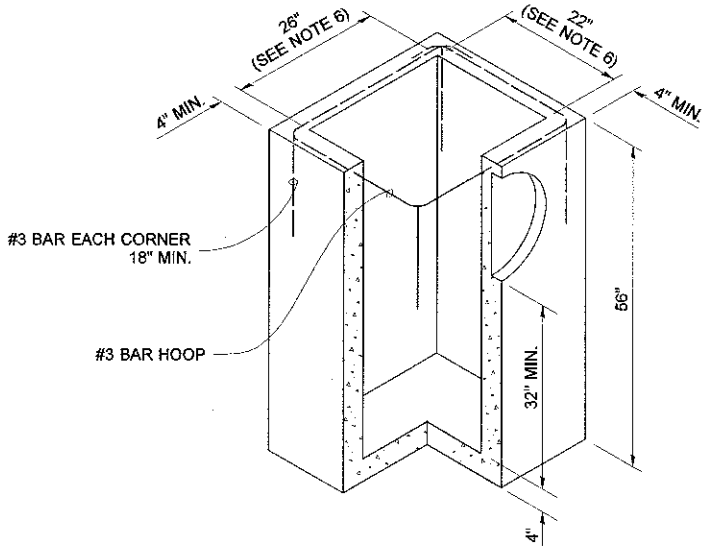
FRAME AND VANED GRATE



RECTANGULAR ADJUSTMENT SECTION



PRECAST BASE SECTION



SEE NOTE 1

ALTERNATIVE PRECAST BASE SECTION

NOTES

1. As acceptable alternatives to the rebar shown in the **PRECAST BASE SECTION**, fibers (placed according to the Standard Specifications), or wire mesh having a minimum area of 0.12 square inches per foot shall be used with the minimum required rebar shown in the **ALTERNATIVE PRECAST BASE SECTION**. Wire mesh shall not be placed in the knockouts.
2. The knockout diameter shall not be greater than 18". Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum. Provide a 1.5" minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with Standard Specification 9-04.3.
3. The maximum depth from the finished grade to the lowest pipe invert shall be 5'.
4. The frame and grate may be installed with the flange up or down. The frame may be cast into the adjustment section.
5. The Precast Base Section may have a rounded floor, and the walls may be sloped at a rate of 1:24 or steeper.
6. The opening shall be measured at the top of the precast base section.
7. All pickup holes shall be grouted full after the basin has been placed.

CATCH BASIN TYPE 1P (FOR PARKING LOT)

STANDARD PLAN B-5.60-00

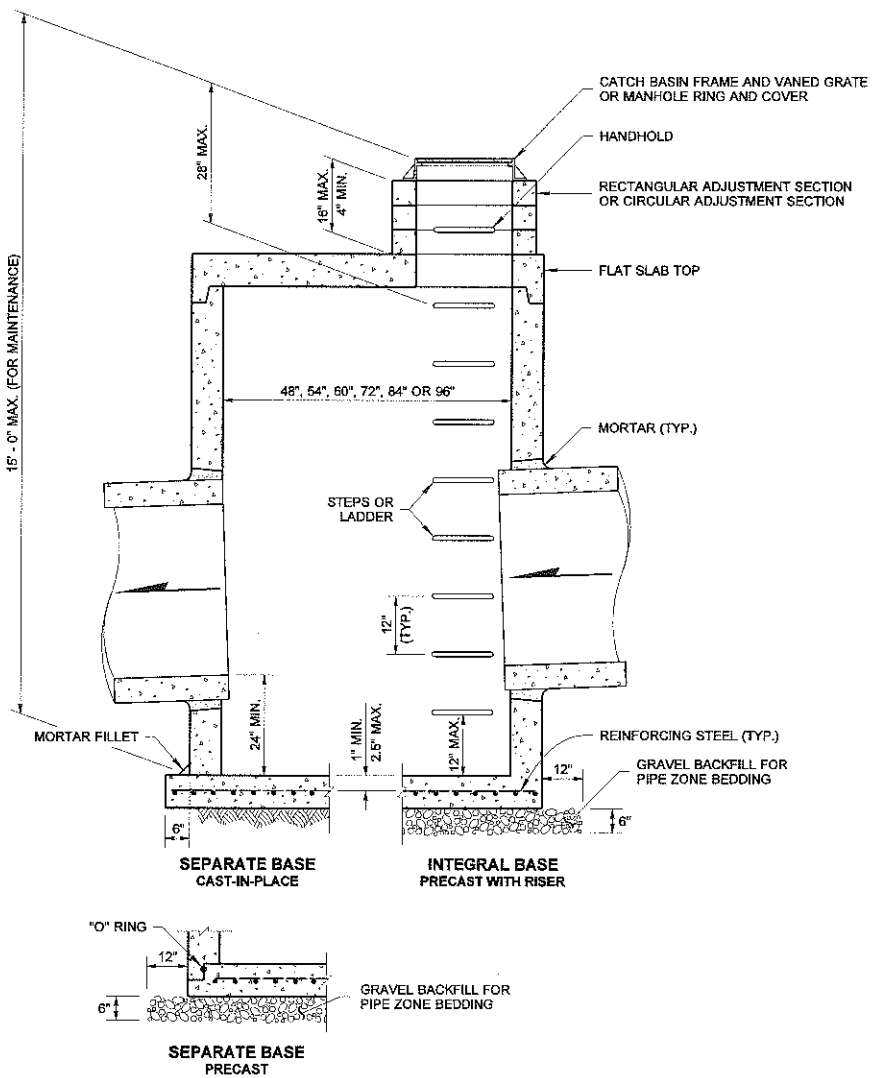
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Harold J. Peterfeso — STATE DESIGN ENGINEER — *06-01-06* — DATE

Washington State Department of Transportation

DRAWN BY: ADAM COCHRAN



NOTES

1. No steps are required when height is 4' or less.
2. The bottom of the precast catch basin may be sloped to facilitate cleaning.
3. The rectangular frame and grate may be installed with the flange up or down. The frame may be cast into the adjustment section.
4. Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum. Provide a 1.5" minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with Standard Specification 9-04.3.

CATCH BASIN DIMENSIONS

CATCH BASIN DIAMETER	WALL THICKNESS	BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS	BASE REINFORCING STEEL in^2/ft. IN EACH DIRECTION	
					SEPARATE BASE	INTEGRAL BASE
48"	4"	6"	36"	8"	0.23	0.15
54"	4.5"	8"	42"	8"	0.19	0.19
60"	5"	8"	48"	8"	0.25	0.25
72"	6"	8"	60"	12"	0.35	0.24
84"	8"	12"	72"	12"	0.39	0.29
96"	8"	12"	84"	12"	0.39	0.29

PIPE ALLOWANCES

CATCH BASIN DIAMETER	PIPE MATERIAL WITH MAXIMUM INSIDE DIAMETER				
	CONCRETE	ALL METAL	CPSSP ①	SOLID WALL PVC ②	PROFILE WALL PVC ③
48"	24"	30"	24"	27"	30"
54"	30"	36"	30"	27"	36"
60"	36"	42"	36"	36"	42"
72"	42"	54"	42"	36"	48"
84"	54"	60"	54"	36"	48"
96"	60"	72"	60"	36"	48"

① Corrugated Polyethylene Storm Sewer Pipe (Std. Spec. 9-05.20)
② (Std. Spec. 9-05.12(1))
③ (Std. Spec. 9-05.12(2))

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CATCH BASIN TYPE 2

STANDARD PLAN B-10.20-00

SHEET 1 OF 1 SHEET

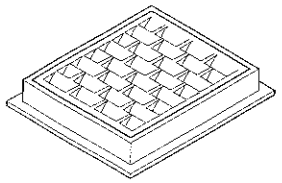
APPROVED FOR PUBLICATION

Harold J. Peterfeso *06-01-06*

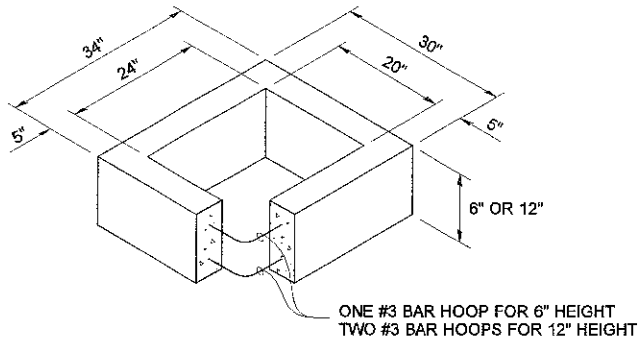
STATE DESIGN ENGINEER — DATE

Washington State Department of Transportation

DRAWN BY: MARK SUJKA



FRAME AND VANED GRATE



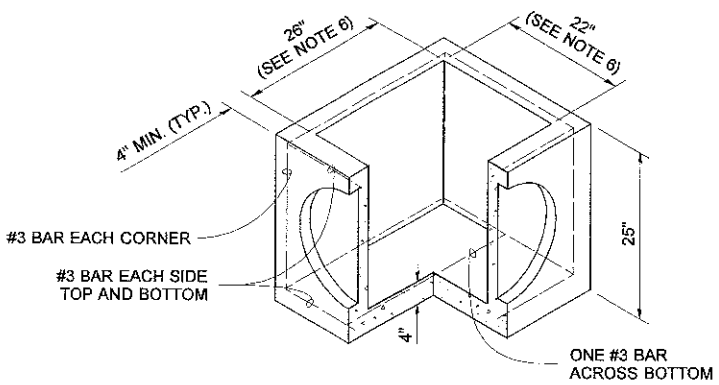
RECTANGULAR ADJUSTMENT SECTION

PIPE ALLOWANCES	
PIPE MATERIAL	MAXIMUM INSIDE DIAMETER
REINFORCED OR PLAIN CONCRETE	12"
ALL METAL PIPE	15"
CPSSP * (STD. SPEC. 9-05.20)	12"
SOLID WALL PVC (STD. SPEC. 9-05.12(1))	15"
PROFILE WALL PVC (STD. SPEC. 9-05.12(2))	15"

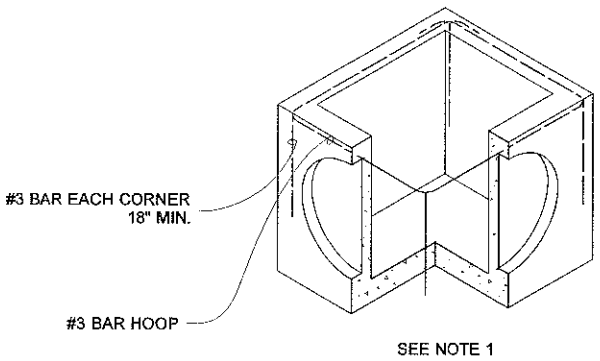
* CORRUGATED POLYETHYLENE STORM SEWER PIPE

NOTES

1. As acceptable alternatives to the rebar shown in the **PRECAST BASE SECTION**, fibers (placed according to the Standard Specifications), or wire mesh having a minimum area of 0.12 square inches per foot shall be used with the minimum required rebar shown in the **ALTERNATIVE PRECAST BASE SECTION**. Wire mesh shall not be placed in the knockouts.
2. The knockout diameter shall not be greater than 18". Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum. Provide a 1.5" minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with Standard Specification 9-04.3.
3. The maximum depth from the finished grade to the lowest pipe invert shall be 5'.
4. The frame and grate may be installed with the flange up or down. The frame may be cast into the adjustment section.
5. The Precast Base Section may have a rounded floor, and the walls may be sloped at a rate of 1:24 or steeper.
6. The opening shall be measured at the top of the precast base section.
7. All pickup holes shall be grouted full after the inlet has been placed.

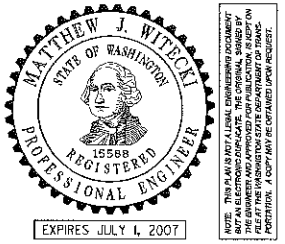


PRECAST BASE SECTION



SEE NOTE 1

ALTERNATIVE PRECAST BASE SECTION



CONCRETE INLET

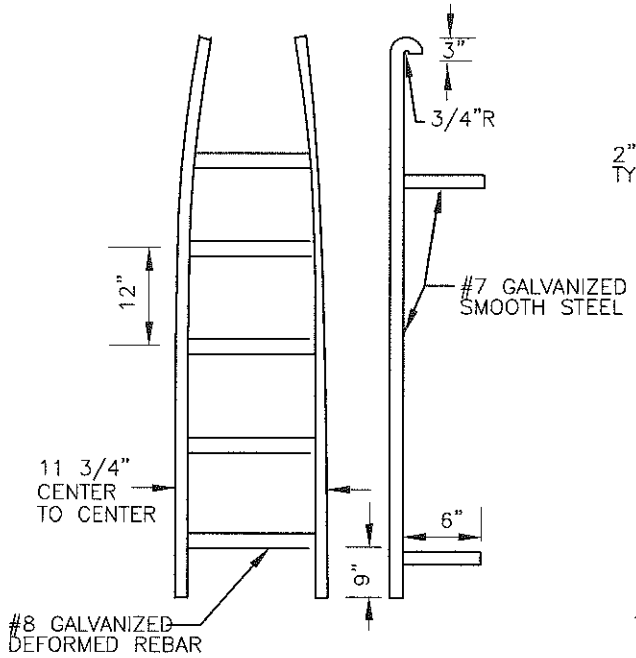
STANDARD PLAN B-25.60-00

SHEET 1 OF 1 SHEET

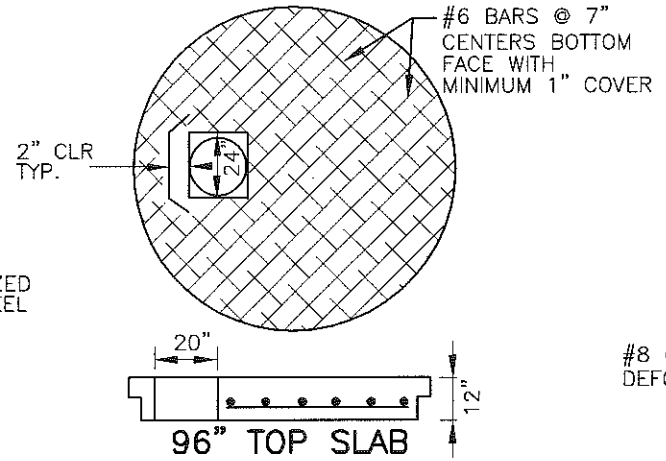
APPROVED FOR PUBLICATION

Harold J. Peterfeso — STATE DESIGN ENGINEER — *06-01-06* — DATE

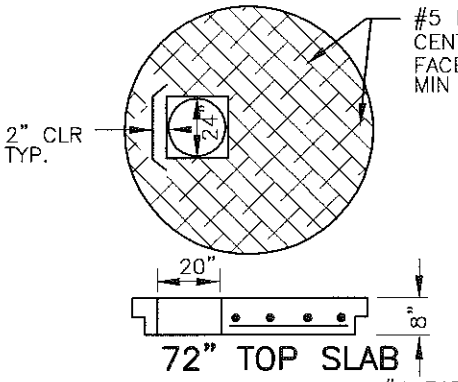
Washington State Department of Transportation



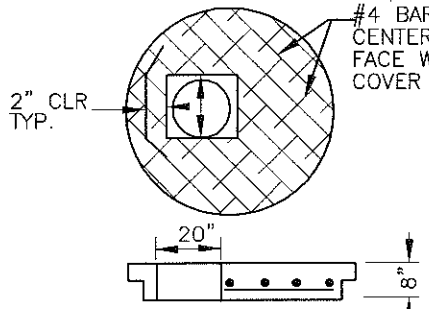
PREFABRICATED LADDER



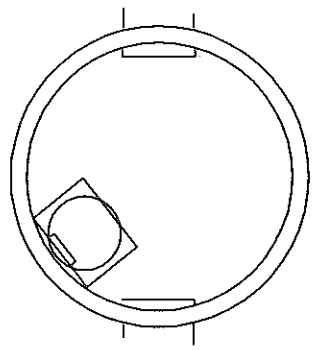
96" TOP SLAB

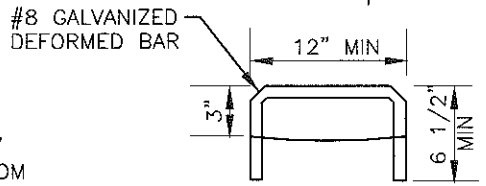


72" TOP SLAB



48" & 54" TOP SLAB





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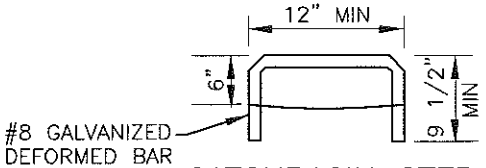
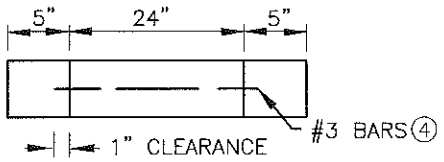
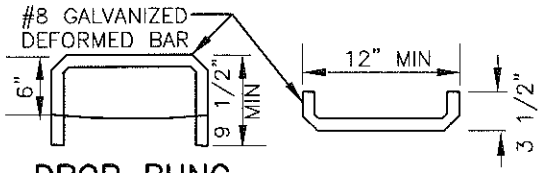


CATCHBASIN STEP





DROP RUNG CATCHBASIN STEP

NOTES:

1. PROPRIETARY CATCHBASIN STEPS ARE ACCEPTABLE, PROVIDED THEY CONFORM TO SECTION R, ASTM C 478 (AASHTO M 199) AND MEET ALL WISHA REQUIREMENTS.

2. CATCHBASIN STEP LEGS SHALL BE PARALLEL OR APPROXIMATELY RADIAL AT THE OPTION OF THE MANUFACTURER, EXCEPT THAT ALL STEPS IN ANY CATCH BASIN SHALL BE SIMILAR. PENETRATION OF OUTER WALL BY LEG IS PROHIBITED.

3. SLAB OPENING MAY BE 24" X 20" OR 24" DIAMETER.

4. AS AN ACCEPTABLE ALTERNATIVE TO REBAR, WELDED WIRE FABRIC HAVING A MINIMUM AREA OF 0.12 SQUARE INCHES PER FOOT MAY BE USED. WELDED WIRE FABRIC SHALL COMPLY TO ASTM A 497 (AASHTO M 221).

SEE TEXT SECTION 5-07

SNOHOMISH COUNTY PUBLIC WORKS

5-120 CATCHBASIN DETAILS

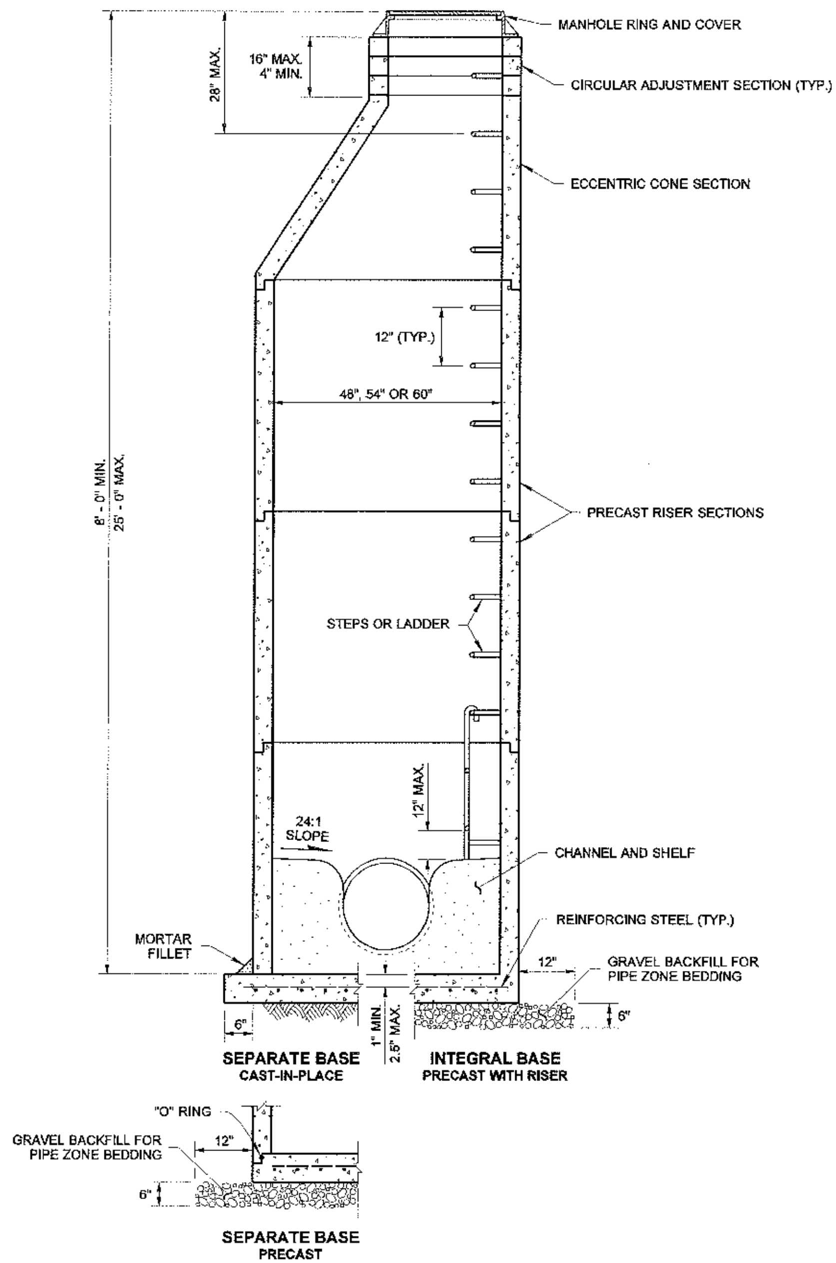
APPROVED BY:

COUNTY ROAD ENGINEER

9/23/10

DATE

DRAWN BY: ADAM COCHRAN



NOTE

Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum.

MANHOLE DIMENSION TABLE

DIAM.	WALL THICKNESS	BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS	BASE REINFORCING STEEL in^2/ft. IN EACH DIRECTION	
					SEPARATE BASE	INTEGRAL BASE
48"	4"	6"	36"	8"	0.23	0.15
54"	4.5"	8"	42"	8"	0.19	0.19
60"	5"	8"	48"	8"	0.25	0.25

MANHOLE TYPE 1

STANDARD PLAN B-15.20-00

SHEET 1 OF 1 SHEET

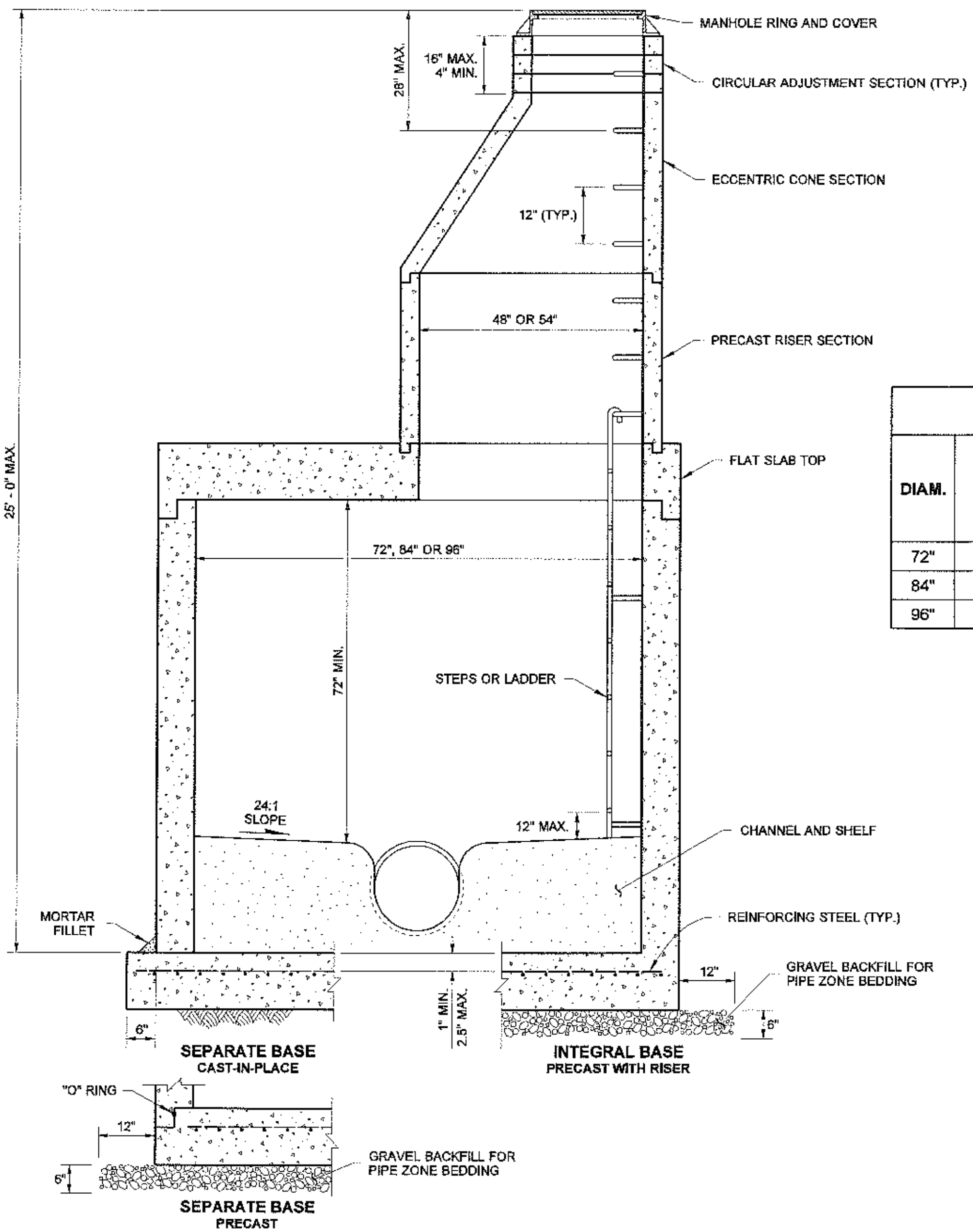
APPROVED FOR PUBLICATION

Harold J. Peterfeso 06-01-06

STATE DESIGN ENGINEER DATE

Washington State Department of Transportation

DRAWN BY: ADAM COCHRAN



NOTE

Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum.

MANHOLE DIMENSION TABLE

DIAM.	WALL THICKNESS	BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS	BASE REINFORCING STEEL in^2 /ft. IN EACH DIRECTION	
					SEPARATE BASE	INTEGRAL BASE
72"	6"	8"	60"	12"	0.35	0.24
84"	8"	12"	72"	12"	0.39	0.29
96"	8"	12"	84"	12"	0.39	0.29

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MANHOLE TYPE 2

STANDARD PLAN B-15.40-00

SHEET 1 OF 1 SHEET

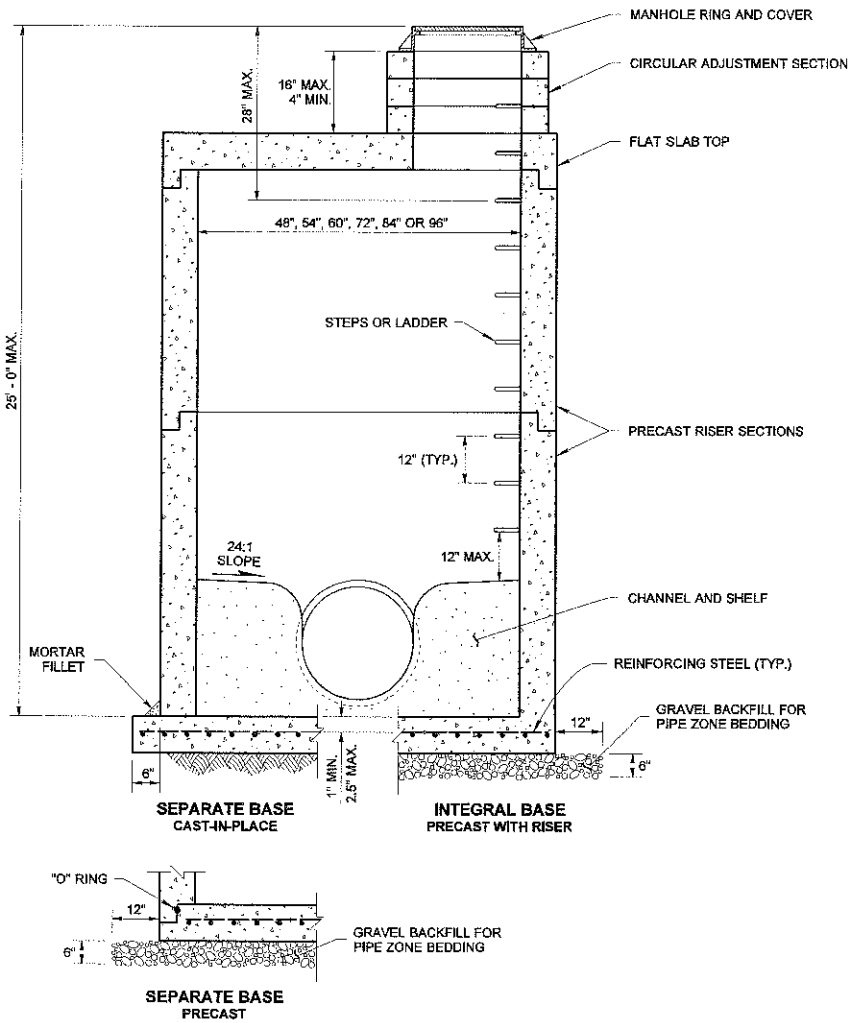
APPROVED FOR PUBLICATION

Harold J. Peterfeso — *06-01-06*

STATE DESIGN ENGINEER — DATE

Washington State Department of Transportation

DRAWN BY: ADAM COCHRAN

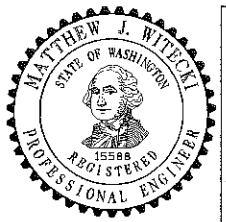


NOTE

Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum.

MANHOLE DIMENSION TABLE

DIAM.	WALL THICKNESS	BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS	BASE REINFORCING STEEL in^2/ft. IN EACH DIRECTION	
					SEPARATE BASE	INTEGRAL BASE
48"	4"	6"	36"	8"	0.23	0.15
54"	4.5"	8"	42"	8"	0.19	0.19
60"	5"	8"	48"	8"	0.25	0.25
72"	6"	8"	60"	12"	0.35	0.24
84"	8"	12"	72"	12"	0.39	0.29
96"	8"	12"	84"	12"	0.39	0.29



MANHOLE TYPE 3

STANDARD PLAN B-15.60-00

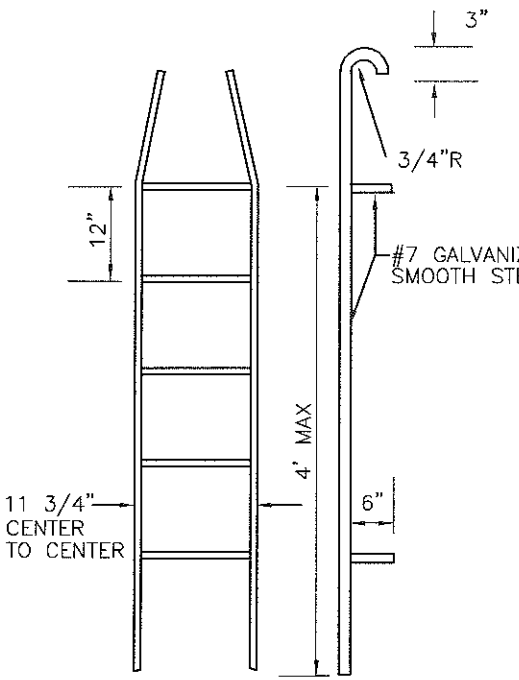
SHEET 1 OF 1 SHEET

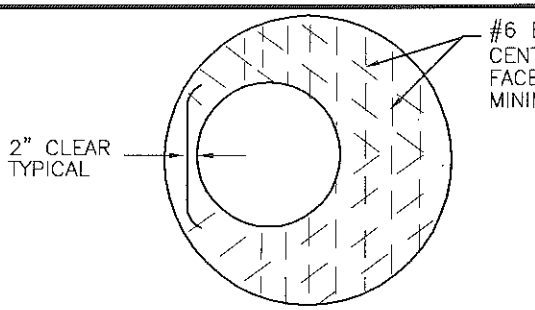
APPROVED FOR PUBLICATION

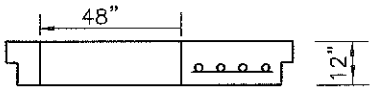
Harold J. Peterfeso *06-01-06*

STATE DESIGN ENGINEER — DATE

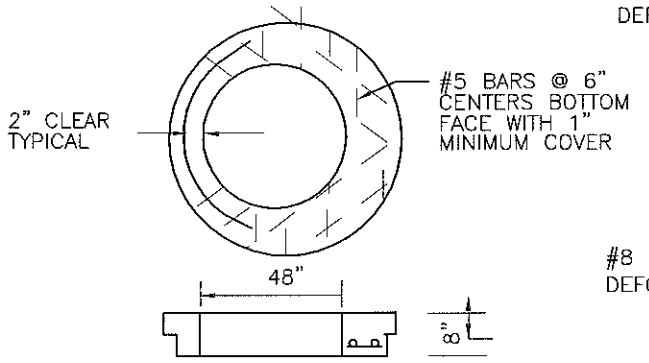
Washington State Department of Transportation



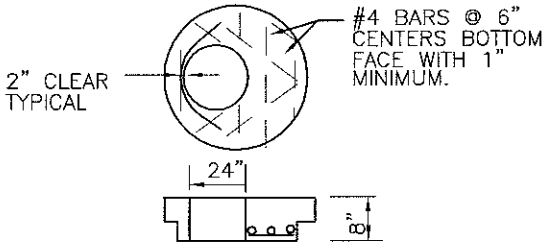




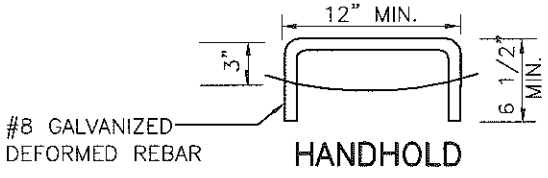
96" TOP SLAB



72" TOP SLAB



48" & 54" TOP SLAB



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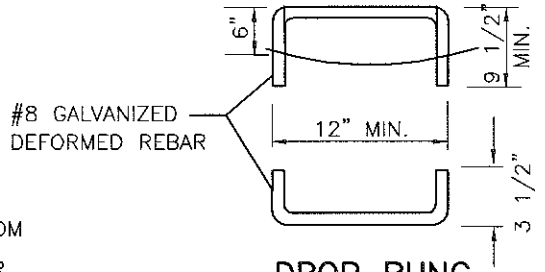
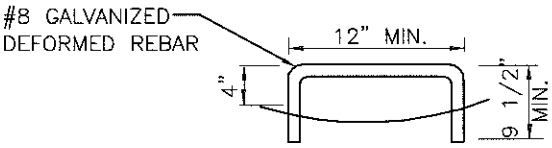
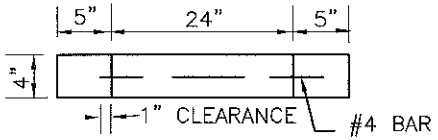


DROP RUNG
MANHOLE STEP



MANHOLE STEP



GRADE RING

NOTES:

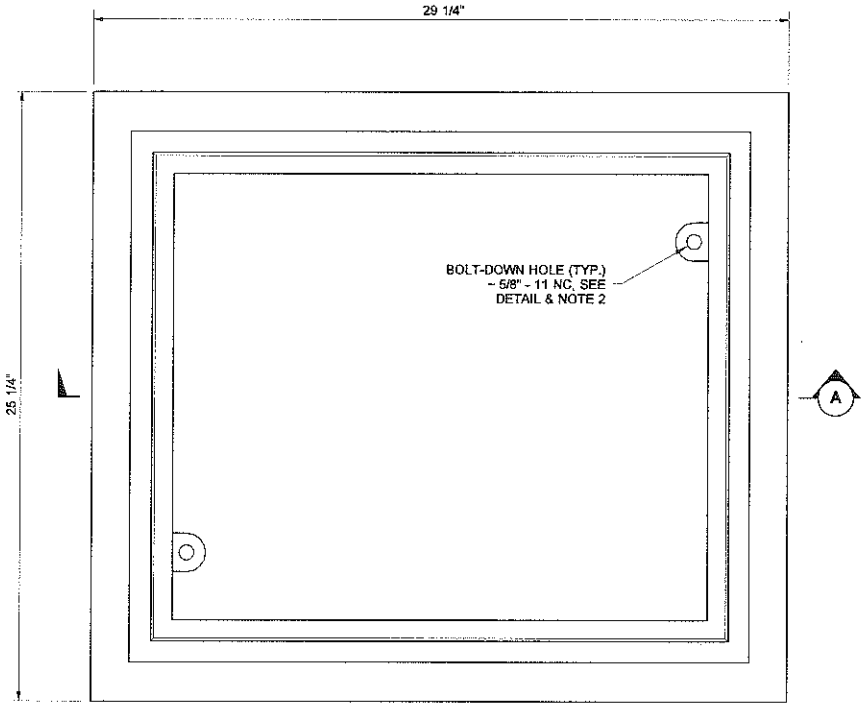
1. PROPRIETARY MANHOLE STEPS ARE ACCEPTABLE PROVIDED THAT THEY CONFORM TO SECTION R, ASTM C 478 (AASHTO M 199) AND MEET ALL WISHA REQUIREMENTS.

2. MANHOLE STEP LEGS SHALL BE PARALLEL OR APPROXIMATELY RADIAL AT THE OPTON OF THE MANUFACTURER, EXCEPT THAT ALL STEPS IN ANY MANHOLE SHALL BE SIMILAR. PENETRATION OF OUTER WALL BY A LEG IS PROHIBITED.

SEE TEXT SECTION 5-07

SNOHOMISH COUNTY PUBLIC WORKS		APPROVED BY: 9/23/10
5-170	MANHOLE DETAILS	COUNTY ROAD ENGINEER — DATE

DRAWN BY: MARK SUJKA



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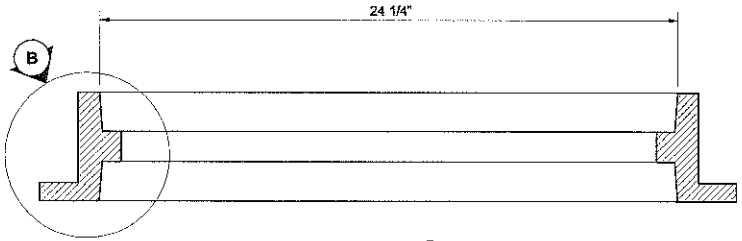
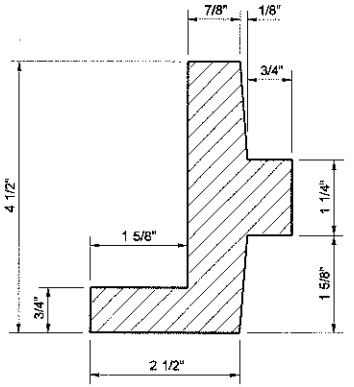


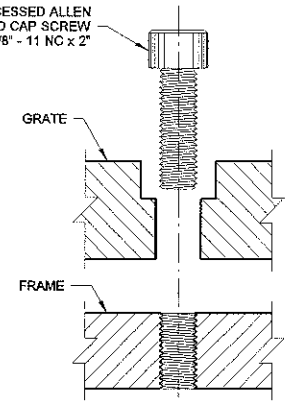
SECTION (A)

NOTES

1. This frame is designed to accommodate 20" × 24" grates or covers as shown on Standard Plans B-30.20, B-30.30, B-30.40 and B-30.50.
2. When bolt-down grates or covers are specified in the Contract, provide two holes in the frame that are vertically aligned with the grate or cover slots. Tap each hole to accept a 5/8" - 11 NC × 2" allen head cap screw. Location of bolt down holes varies among different manufacturers.
3. Refer to Standard Specification 9-05.15(2) for additional requirements.

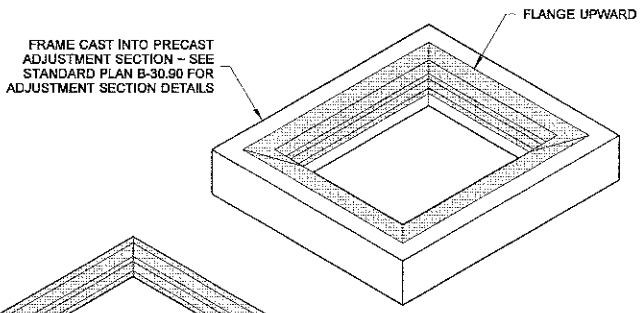


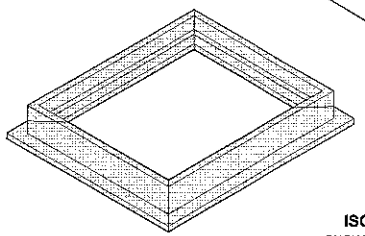
DETAIL (B)



SECTION

BOLT-DOWN DETAIL
SEE NOTE 2





ISOMETRIC VIEW
SHOWING THE VARIATIONS

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RECTANGULAR FRAME (REVERSIBLE)

STANDARD PLAN B-30.10-00

SHEET 1 OF 1 SHEET

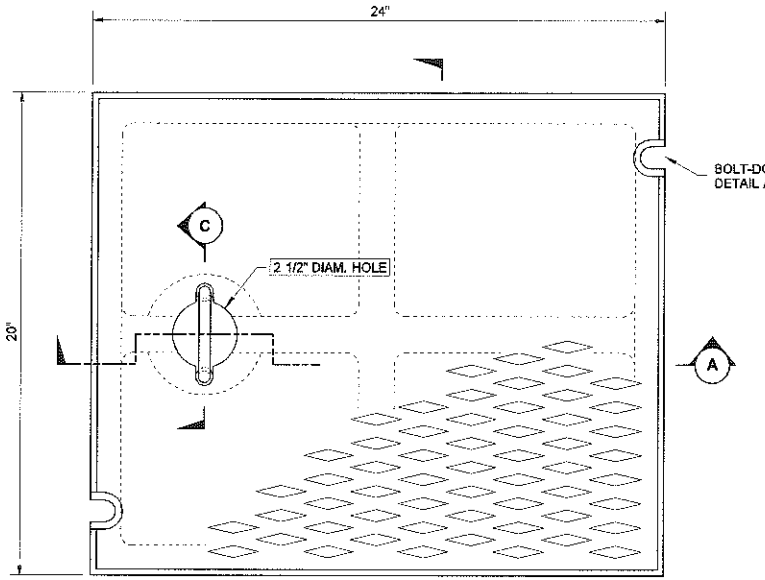
APPROVED FOR PUBLICATION

Harold J. Peterfeso *06-08-06*

STATE DESIGN ENGINEER — DATE

Washington State Department of Transportation

DRAWN BY: MARK SUJKA



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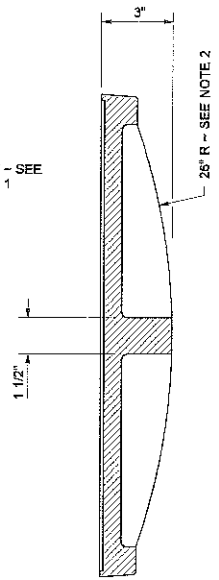
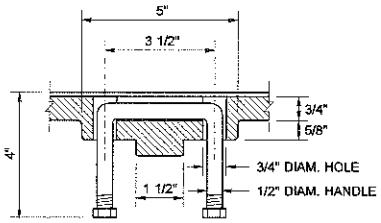


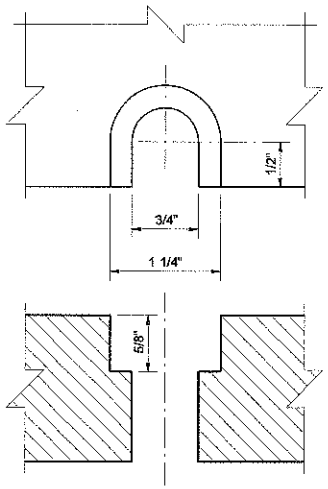
SECTION (B)

NOTES

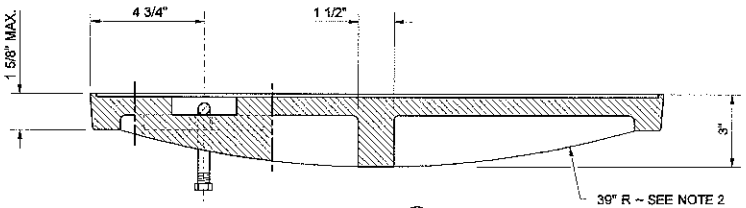
1. When bolt-down covers are specified in the Contract, provide two slots in the cover that are vertically aligned with the holes in the frame. Location of bolt-down slots varies among different manufacturers.
2. Alternative reinforcing designs are acceptable in lieu of the rib design.
3. Refer to Standard Specification 9-05.15(2) for additional requirements.
4. For frame details, see Standard Plan B-30.10.



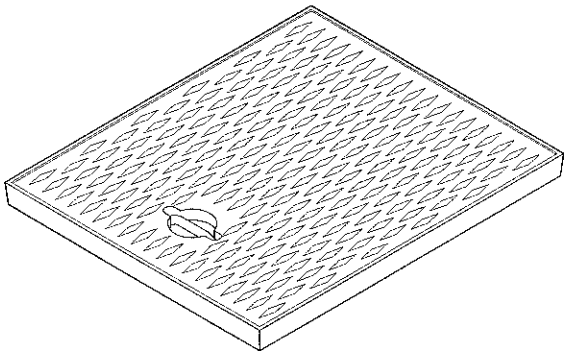
SECTION (C)



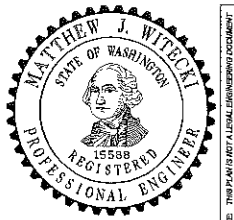
BOLT-DOWN SLOT DETAIL
SEE NOTE 1



SECTION (A)



ISOMETRIC



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RECTANGULAR SOLID METAL COVER

STANDARD PLAN B-30.20-01

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

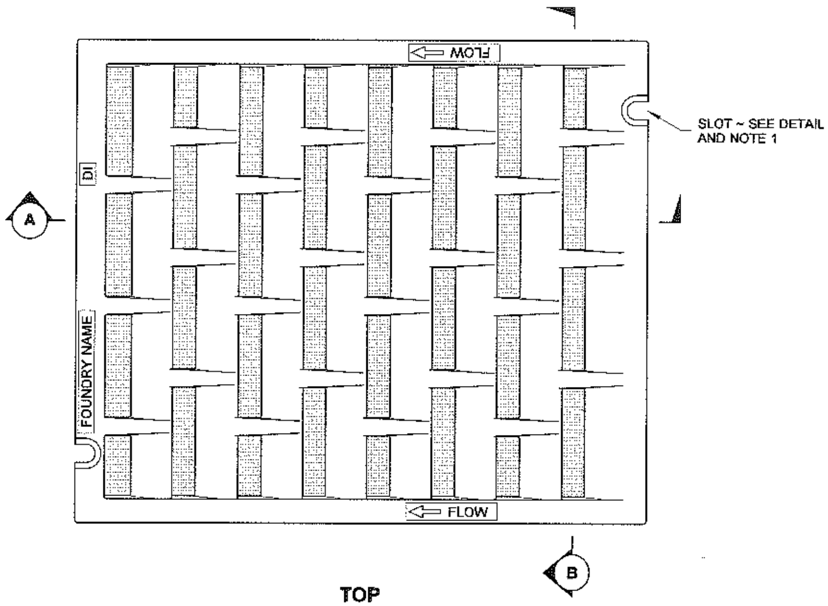
Kevin J. Dayton — STATE DESIGN ENGINEER — *11-21-06* — DATE

Washington State Department of Transportation

DRAWN BY: MARK SUJKA

NOTES

1. When bolt-down grates are specified in the Contract, provide two slots in the grate that are vertically aligned with the holes in the frame. Location of bolt-down slots varies among different manufacturers.
2. Refer to Standard Specification 9-05.15(2) for additional requirements.
3. For Frame details, see Standard Plan B-30.10.



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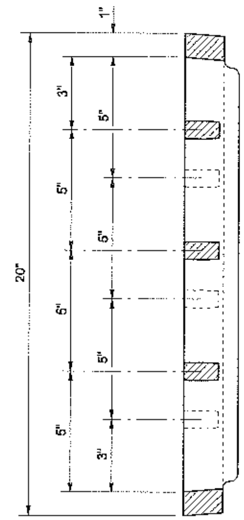
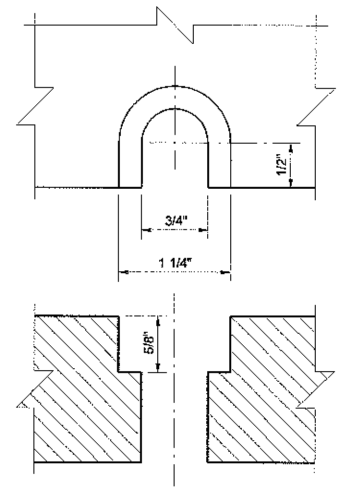
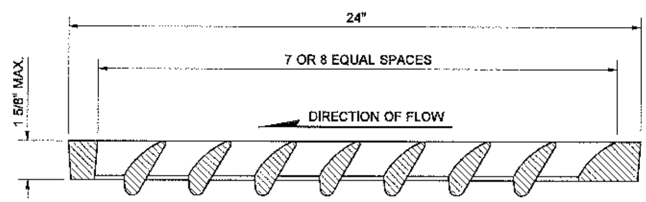


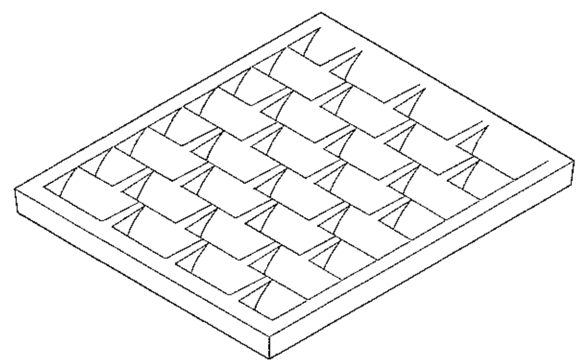
SECTION (B)



BOLT-DOWN SLOT DETAIL
SEE NOTE 1



SECTION (A)



ISOMETRIC

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RECTANGULAR VANED GRATE

STANDARD PLAN B-30.30-00

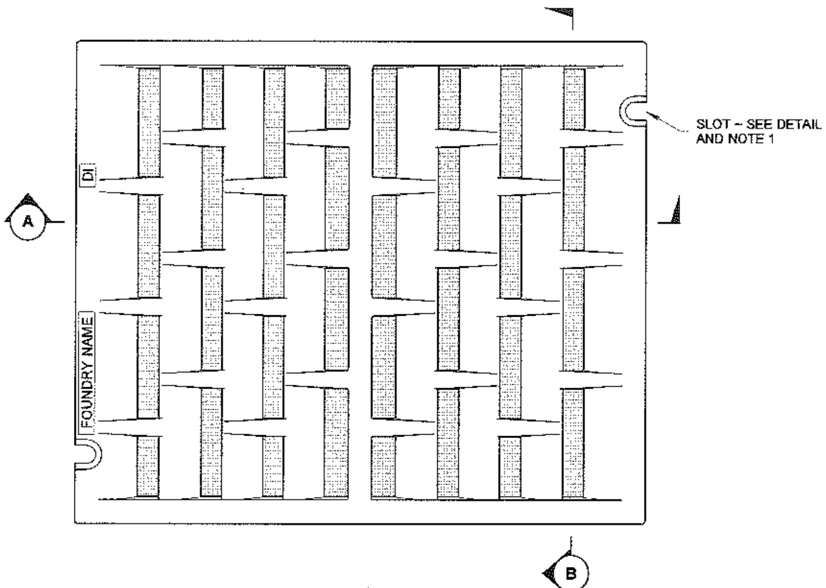
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Harold J. Peterfeso	*06-01-06*
STATE DESIGN ENGINEER	DATE

Washington State Department of Transportation

DRAWN BY: MARK SUJKA



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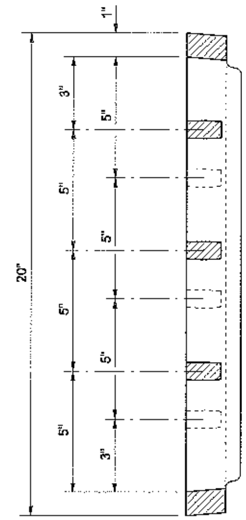
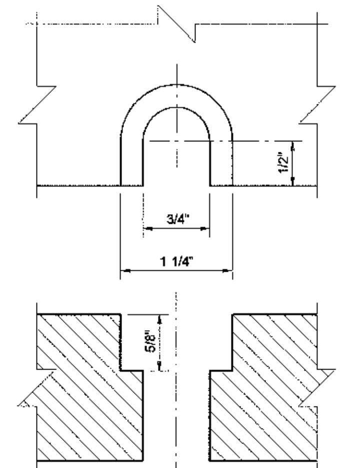


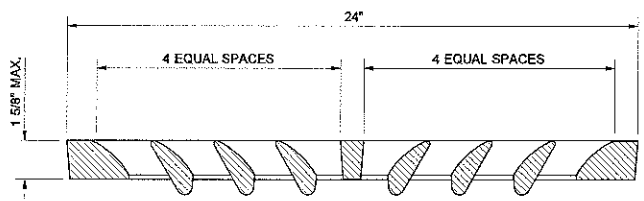
SECTION (B)

NOTES

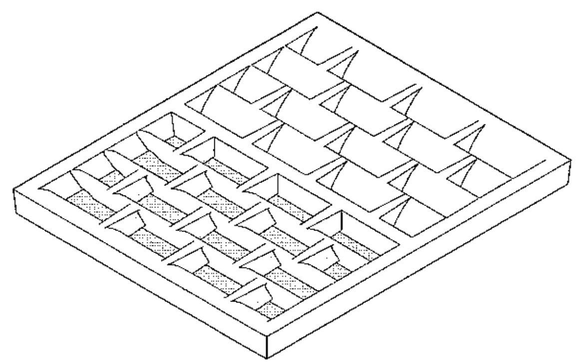
1. When bolt-down grates are specified in the Contract, provide two slots in the grate that are vertically aligned with the holes in the frame. Location of bolt-down slots varies among different manufacturers.
2. Refer to Standard Specification 9-05.15(2) for additional requirements.
3. For Frame details, see Standard Plan B-30.10.



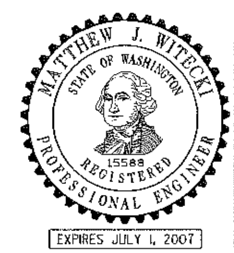
BOLT-DOWN SLOT DETAIL
SEE NOTE 1



SECTION (A)



ISOMETRIC



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RECTANGULAR BI-DIRECTIONAL VANED GRATE
STANDARD PLAN B-30.40-00

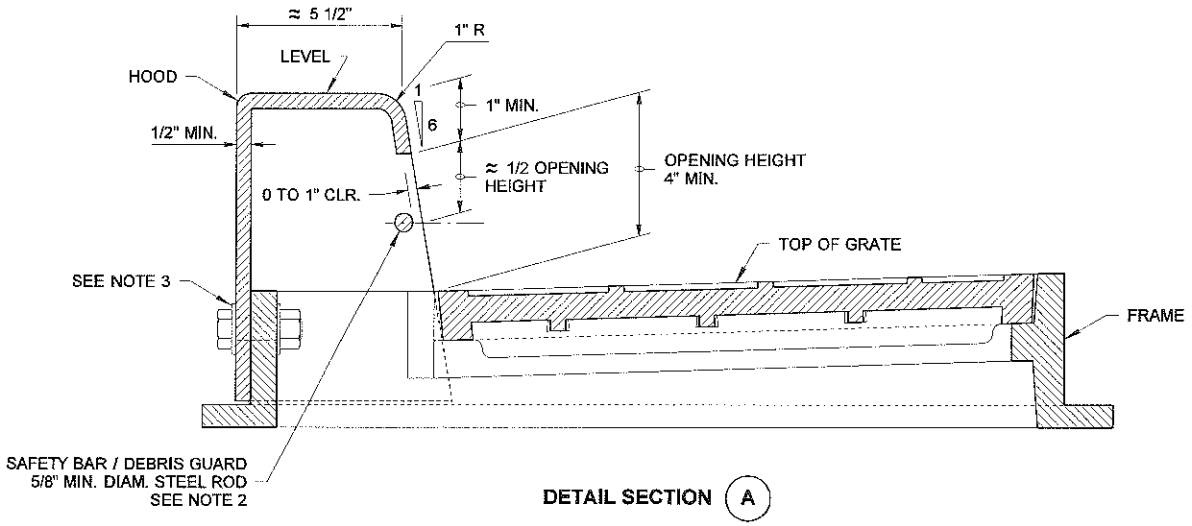
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Harold J. Peterfeso 06-01-06
STATE DESIGN ENGINEER DATE

Washington State Department of Transportation

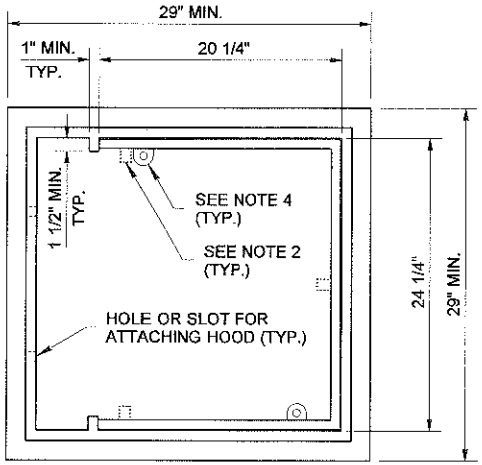
DRAWN BY: MARK SUJKA



DETAIL SECTION (A)

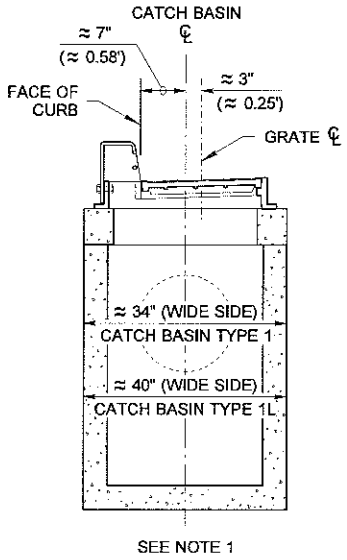
NOTES

1. The asymmetry of the Combination Inlet shall be considered when calculating the offset distance for the catch basin. See **SECTION A.**
2. The dimensions of the Frame and Hood may vary slightly among different manufacturers. The Frame may have cast features intended to support a grate guard. Hood units shall mount outside of the Frame. The methods for fastening the Safety Bar / Debris Guard Rod to the Hood may vary. The Hood may include casting lugs. The top of the Hood may be cast with a pattern.
3. Attach the Hood to the frame with two 3/4" × 2" hex head bolts, nuts, and oversize washers. The washers shall have diameters adequate to assure full bearing across the slots.
4. When bolt-down grates are specified in the contract, provide two holes in the frame that are vertically aligned with the grate slots. Tap each hole to accept a 5/8" × - 11 NC × 2" allen head cap screw. Location of bolt-down holes varies among different manufacturers. See **BOLT- DOWN DETAIL**, Standard Plan B-30.10.
5. Only ductile iron Vaned Grates shall be used. See Standard Plans B-30.30 and B-30.40 for grate details. Refer to Standard Specification 9-05.15(2) for additional requirements.
6. This plan is intended to show the installation details of a manufactured product. It is not the intent of this plan to show the specific details necessary to fabricate the castings shown on this drawing.



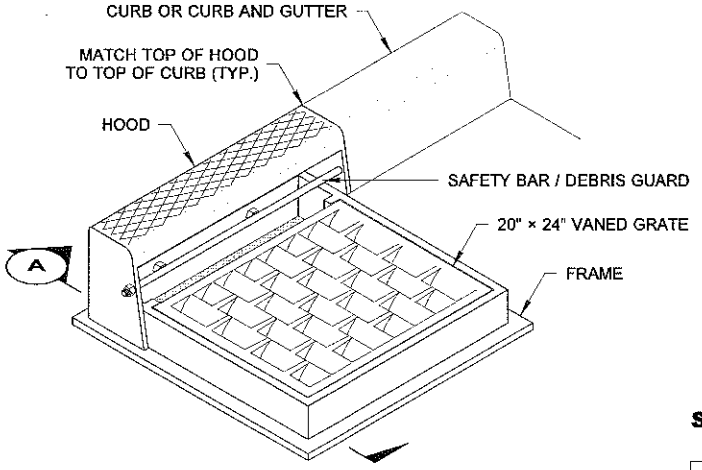
TOP VIEW

FRAME DETAIL



SEE NOTE 1

SECTION (A)



ISOMETRIC VIEW

COMBINATION INLET

FRAME, HOOD, AND VANED GRATE

MATTHEW J. WITECKI
STATE OF WASHINGTON
15588
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES JULY 1, 2007

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COMBINATION INLET

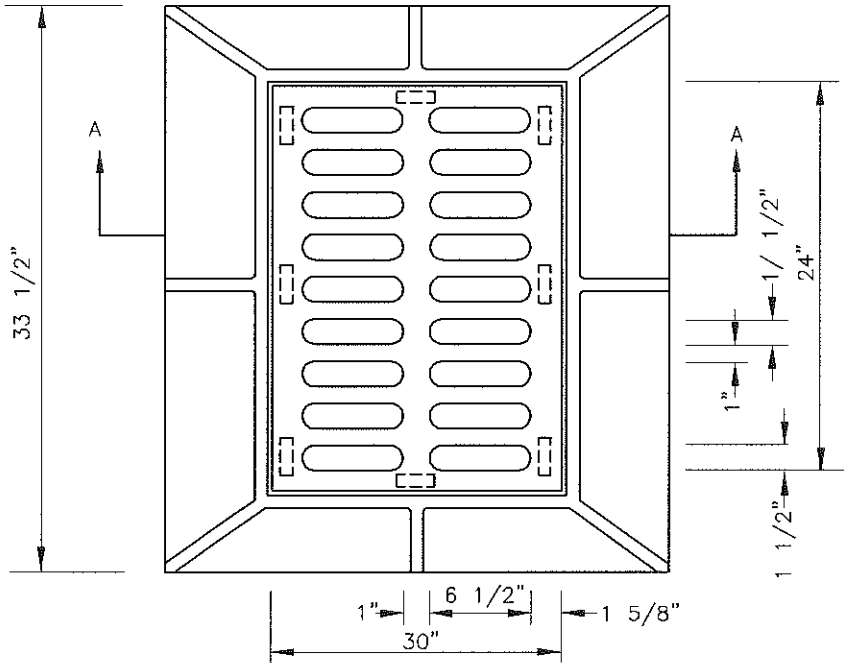
STANDARD PLAN B-25.20-00

SHEET 1 OF 1 SHEET

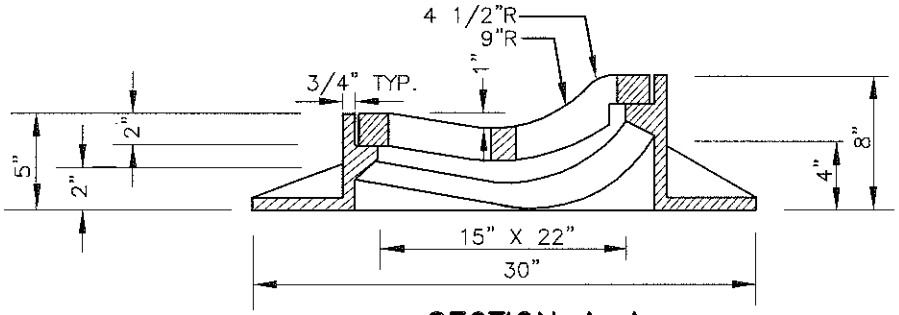
APPROVED FOR PUBLICATION

Harold J. Peterfeso — STATE DESIGN ENGINEER — *06-08-06* — DATE

Washington State Department of Transportation



PLAN



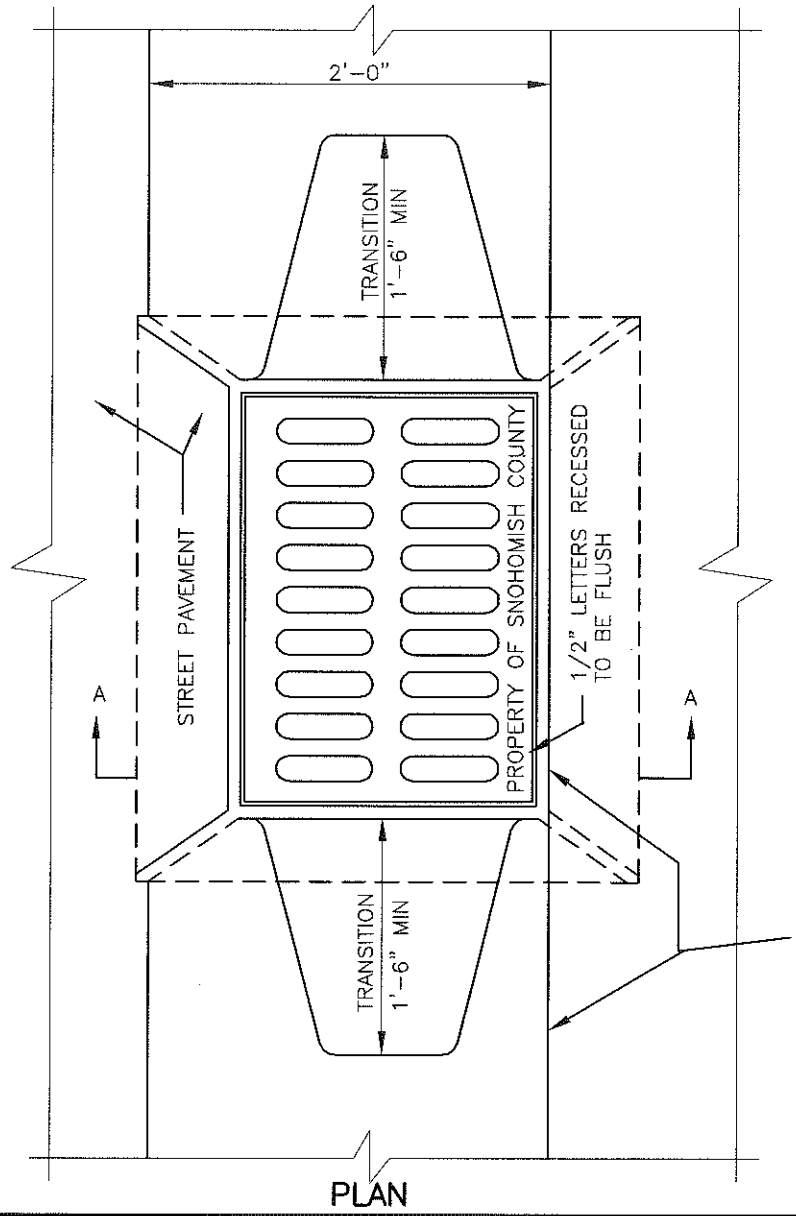
SECTION A–A

NOTES:

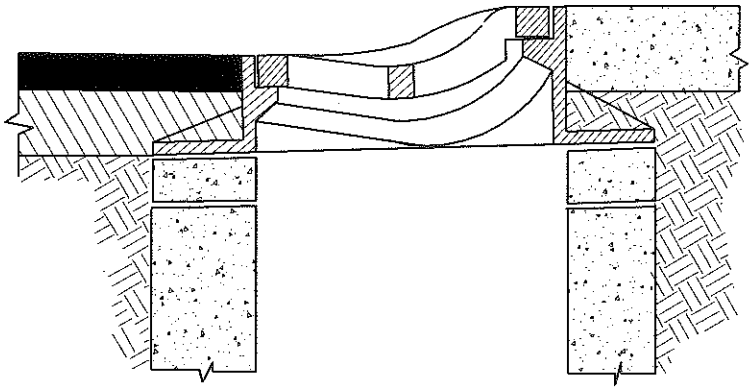
1. FOR REPLACEMENT OF EXISTING STRUCTURES ONLY, NOT FOR NEW INSTALLATION
2. MATERIAL IS CAST IRON ASTM A48 CLASS 30.
3. THE WORDS "PROPERTY OF SNOHOMISH COUNTY" SHALL BE OMITTED IF ON A PRIVATE SYSTEM.
4. NOT TO BE USED ON THICKENED EDGE ROADWAYS.

SEE TEXT SECTION 5–08

SNOHOMISH COUNTY PUBLIC WORKS		APPROVED BY:
5–220A	ROLLED CURB FRAME & GRATE	COUNTY ROAD ENGINEER — DATE 9/23/10



PLAN

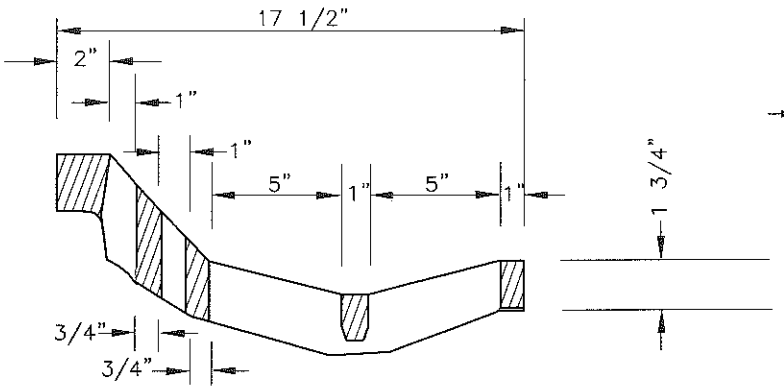


SECTION A–A

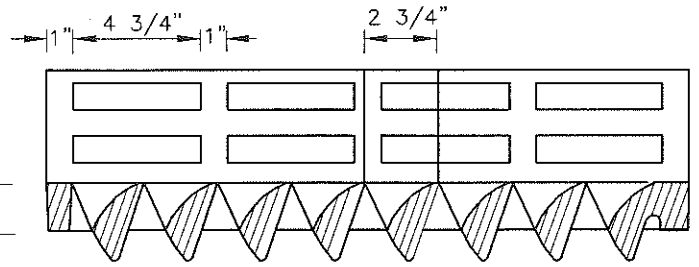
NOTES:

1. FOR REPLACEMENT OF EXISTING STRUCTURES ONLY, NOT FOR NEW INSTALLATION.
2. SET FRAME TO GRADE AND CONSTRUCT ROAD AND CURB TO BE FLUSH AT FRONT AND BACK OF FRAME.
3. SEE SECTION 5–08.
4. THE WORDS "PROPERTY OF SNOHOMISH COUNTY" SHALL BE OMITTED IF GRATE IS ON PRIVATE SYSTEM.
5. NOT TO BE USED ON THICKENED EDGE ROADWAYS.

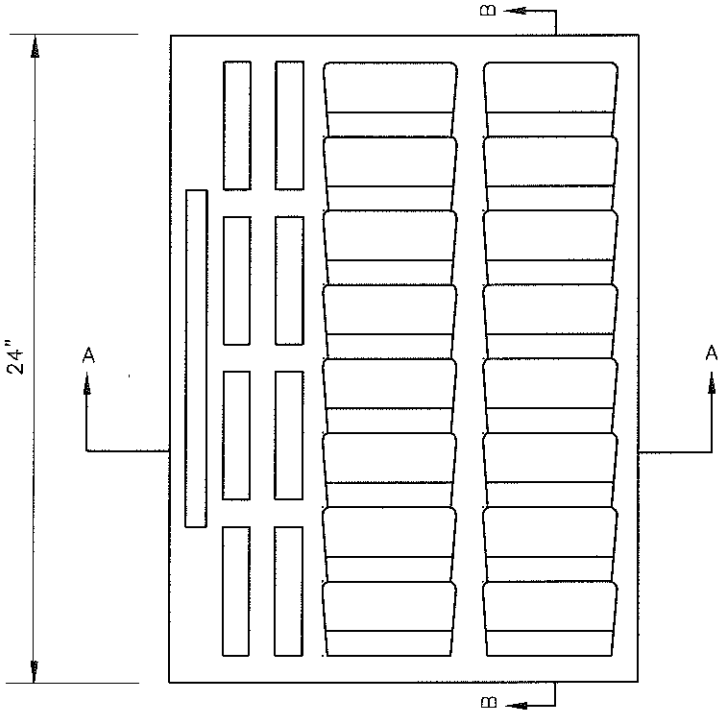
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: 9/23/10
	5–220B ROLLED CURB FRAME & GRATE INSTALLATION	COUNTY ROAD ENGINEER DATE



SECTION A–A



SECTION B–B

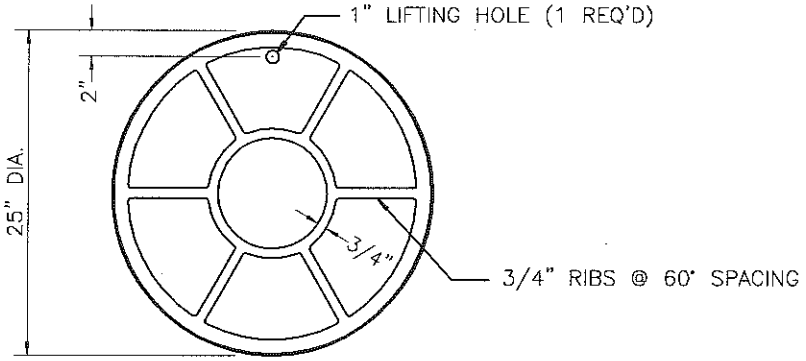


NOTES:

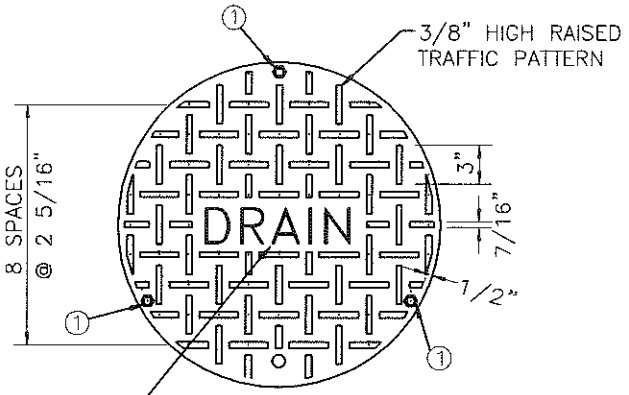
1. FOR REPLACEMENT OF EXISTING STRUCTURES ONLY, NOT FOR NEW INSTALLATION.
2. MATERIAL IS CAST IRON ASTM A4B CLASS 30.
3. THE WORDS "PROPERTY OF SNOHOMISH COUNTY" SHALL BE OMITTED IF ON A PRIVATE SYSTEM.

   SEE TEXT SECTION 5–08.

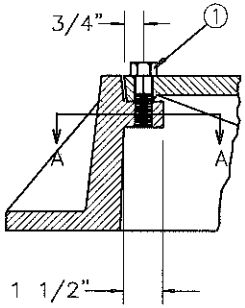
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY:
5–225	ROLLED CURB VANED GRATE	COUNTY ROAD ENGINEER — DATE 9/23/10



BOTTOM OF COVER

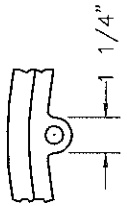


TOP OF COVER

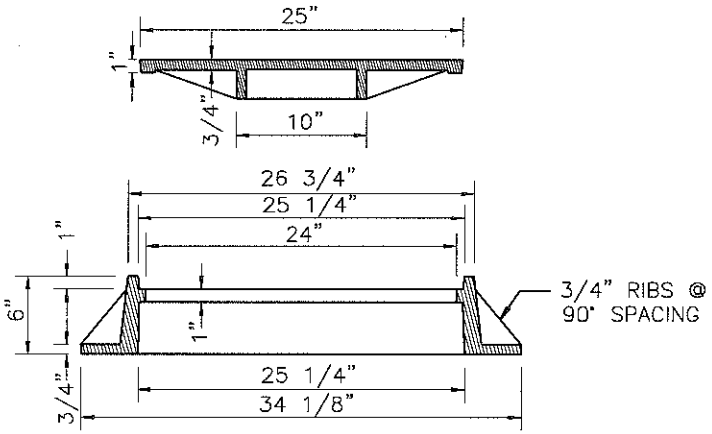


BOLT–DOWN DETAIL

(RAISED TRAFFIC PATTERN NOT SHOWN)



SECTION A–A



FRAME AND COVER ELEVATION

(RAISED TRAFFIC PATTERN NOT SHOWN)

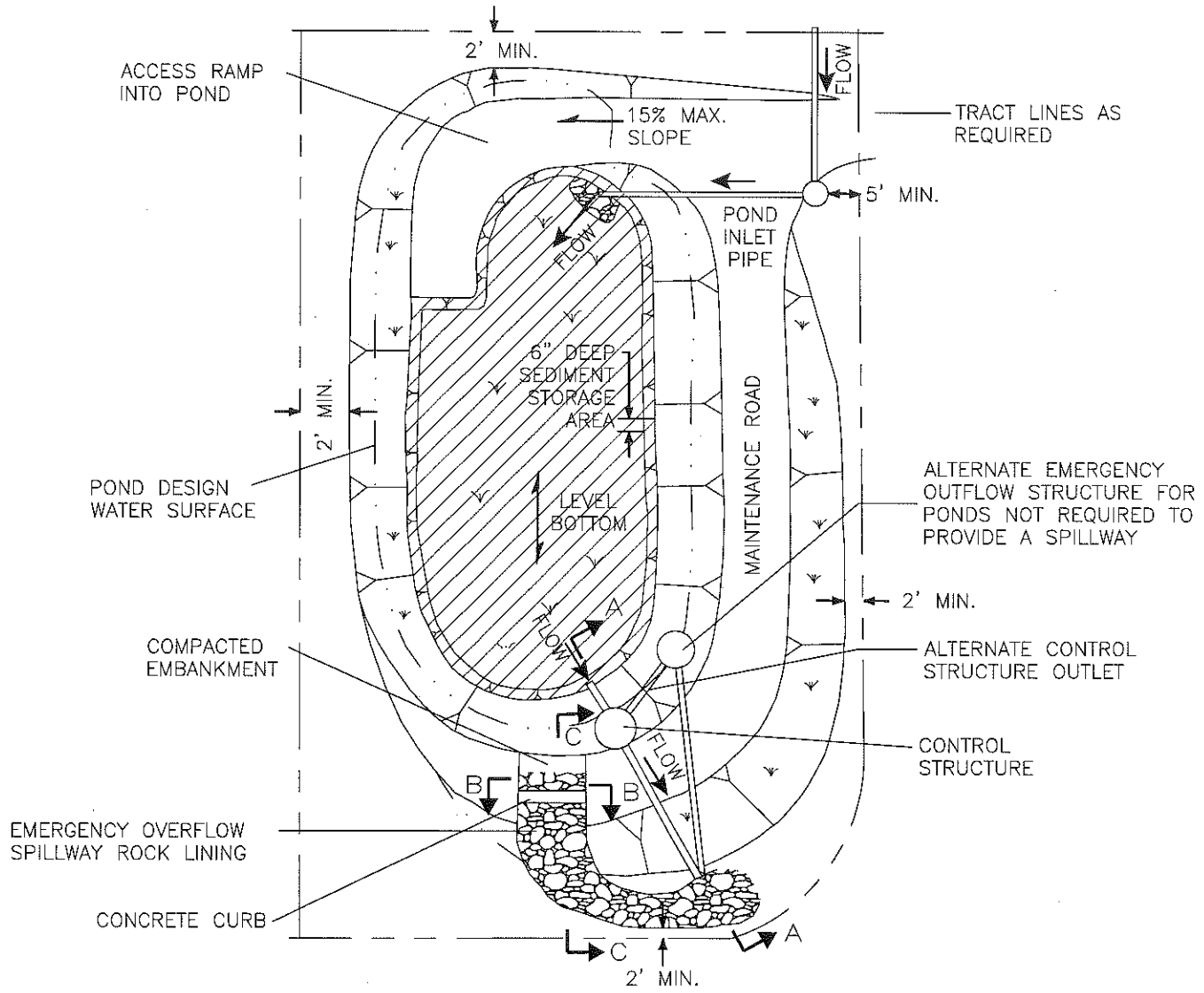
NOTES:

1. COVER SHALL BE LOCKED DOWN WITH (3) 5/8" STAINLESS STEEL SOCKET HEAD CAP SCREWS. DRILL (3) 11/16" HOLES IN COVER SPACED AT 120 DEGREES AND 3/4" IN FROM EDGE OF COVER.

2. MATERIAL IS DUCTILE IRON ASTM A 536 GRADE 80–55–06.

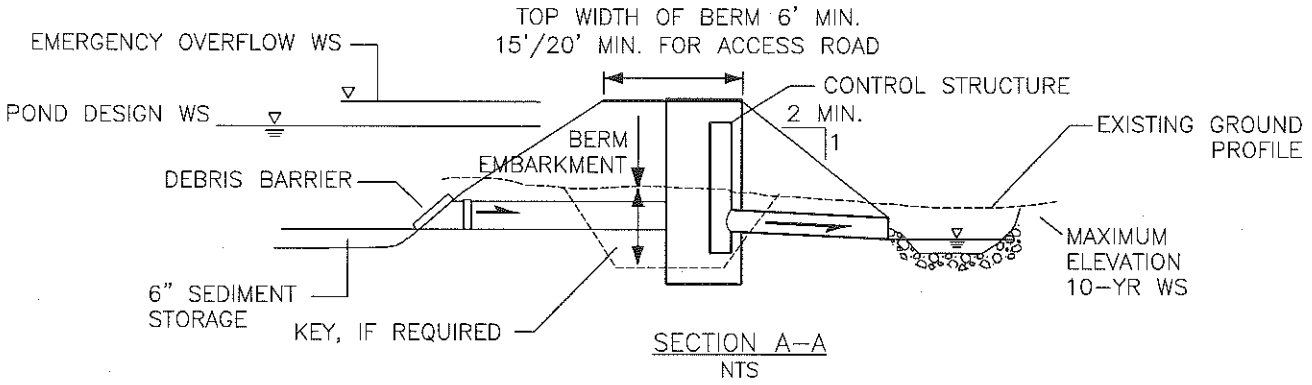
SEE TEXT SECTION 5–08.

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: 9/23/10
5–230	MANHOLE RING AND COVER	COUNTY ROAD ENGINEER — DATE

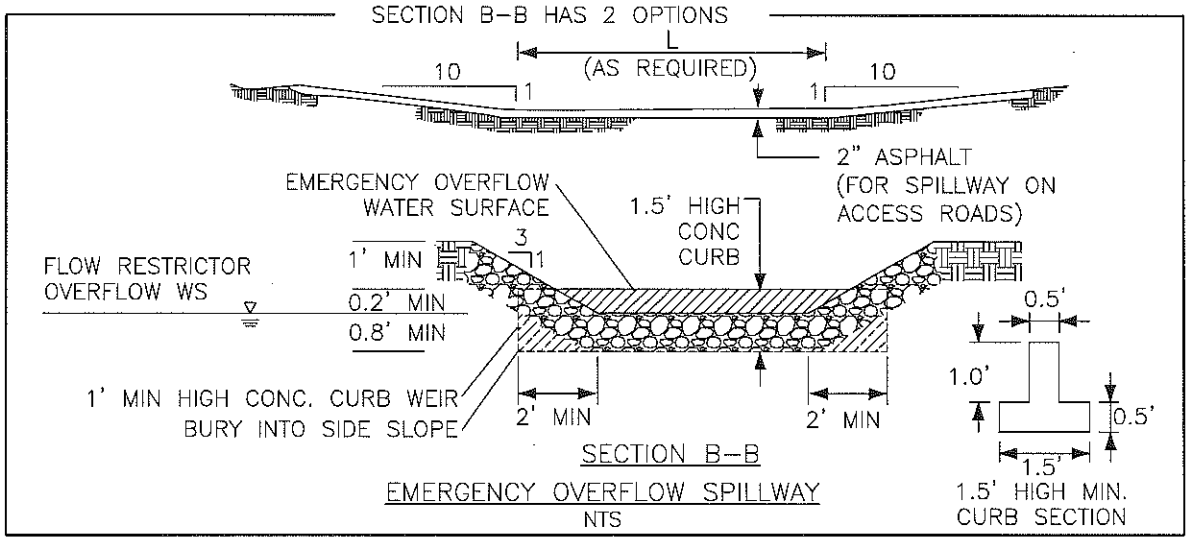


NOTE:
THIS DETAIL IS A SCHEMATIC REPRESENTATION ONLY. ACTUAL CONFIGURATION WILL VARY DEPENDING ON SPECIFIC SITE CONSTRAINTS AND APPLICABLE DESIGN CRITERIA.

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: 9/23/10
5-240A	TYPICAL DETENTION POND	COUNTY ROAD ENGINEER — DATE

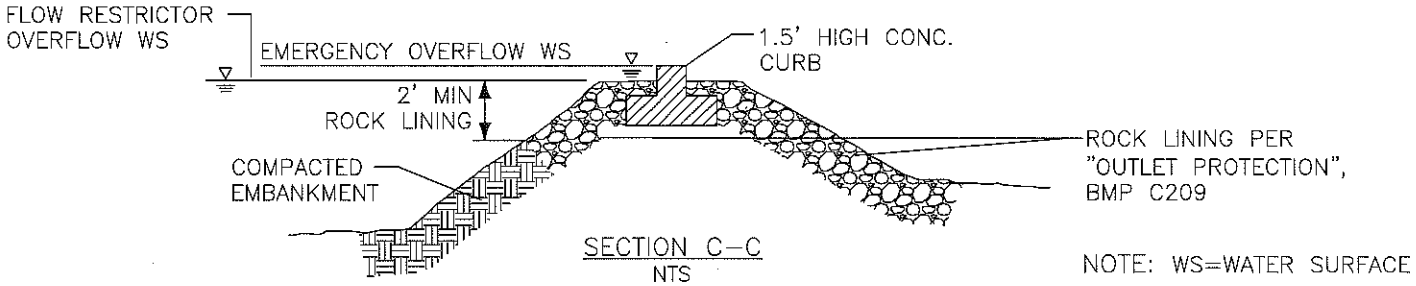


SECTION A–A
NTS



SECTION B–B
EMERGENCY OVERFLOW SPILLWAY
NTS

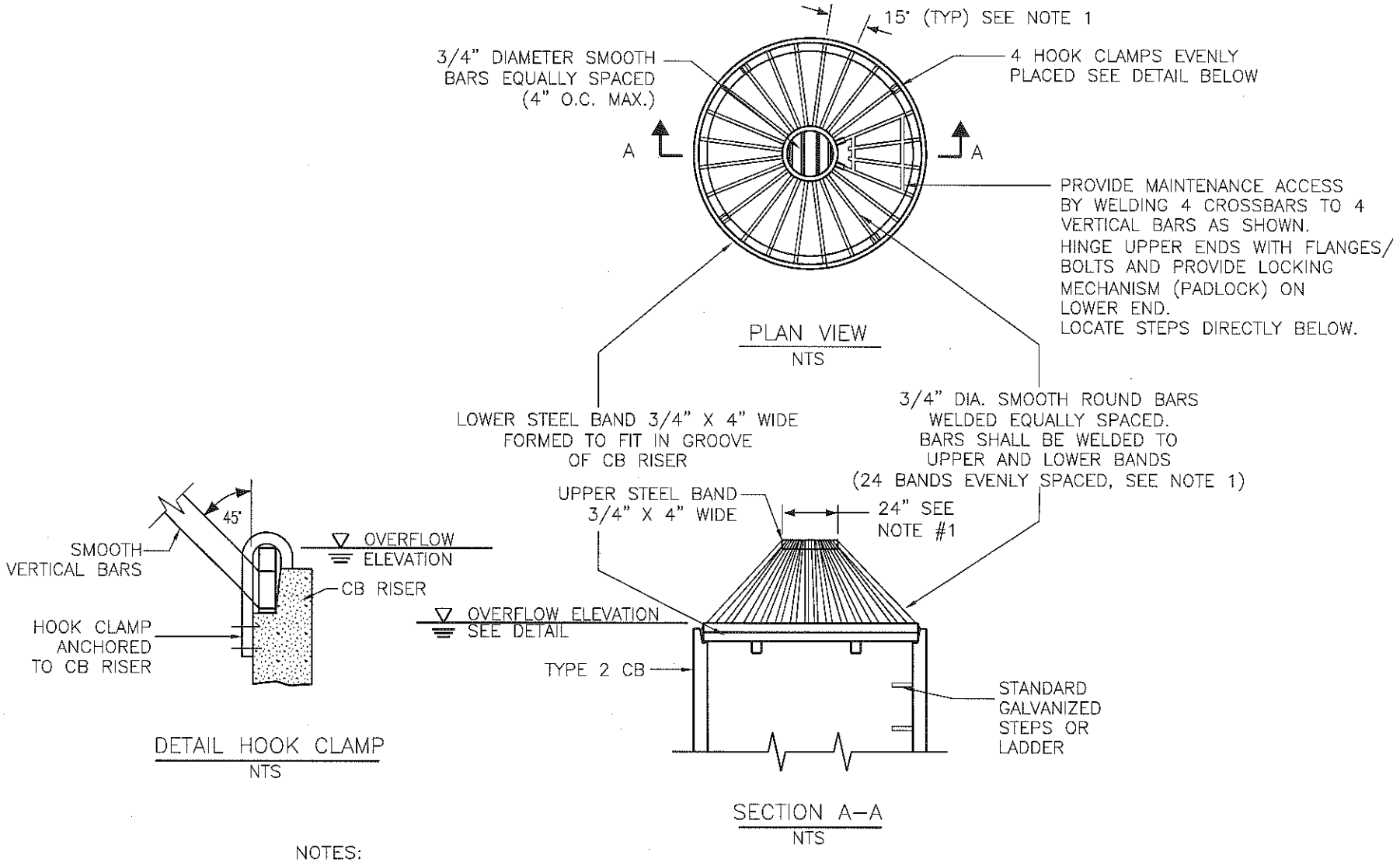
1.5' HIGH MIN. CURB SECTION



SECTION C–C
NTS

NOTE: WS=WATER SURFACE

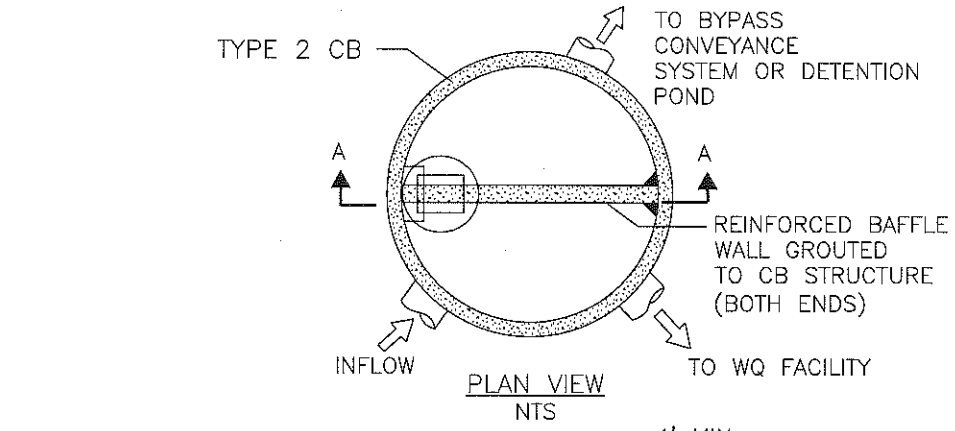
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY:
5-240B	TYPICAL DETENTION POND SECTIONS	COUNTY ROAD ENGINEER — DATE 9/23/10



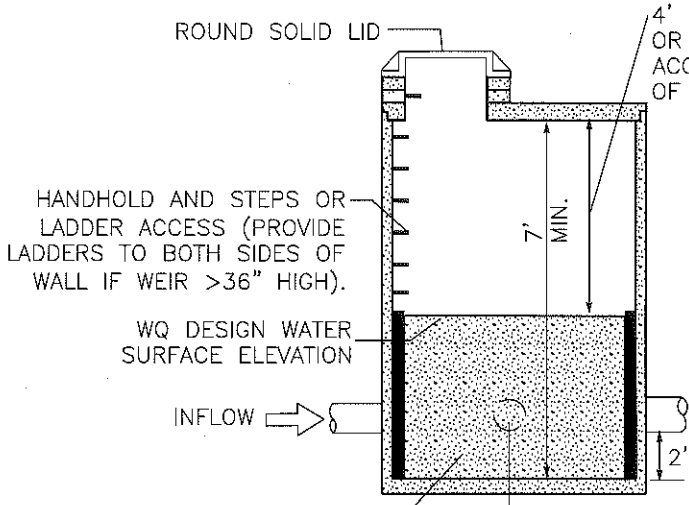
NOTES:

1. DIMENSIONS ARE FOR ILLUSTRATION ON 54" DIAMETER CB. FOR DIFFERENT DIAMETER CB'S ADJUST TO MAINTAIN 45° ANGLE ON "VERTICAL" BARS AND 7" O.C. MAXIMUM SPACING OF BARS AROUND LOWER STEEL BAND.
2. METAL PARTS MUST BE CORROSION RESISTANT; STEEL BARS MUST BE GALVANIZED.

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY:
5–245	OVERFLOW STRUCTURE	COUNTY ROAD ENGINEER — DATE 9/23/10



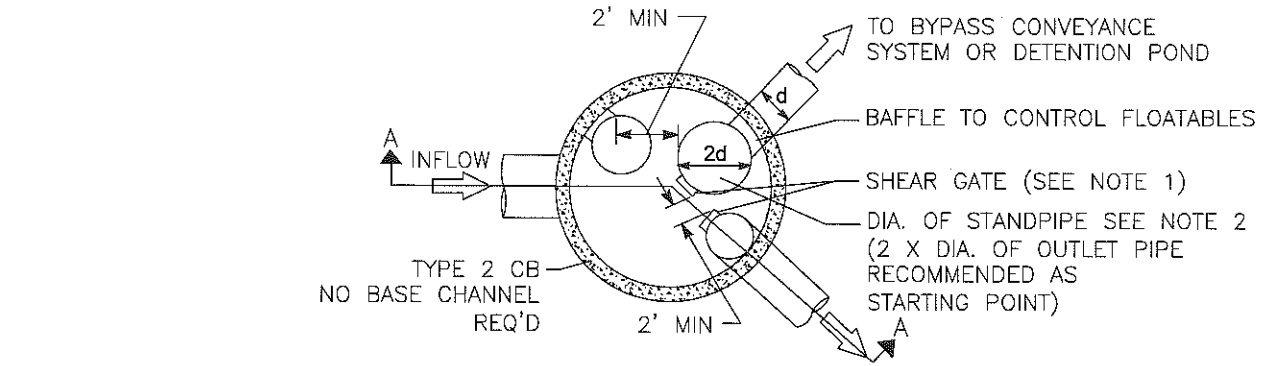
PLAN VIEW
NTS



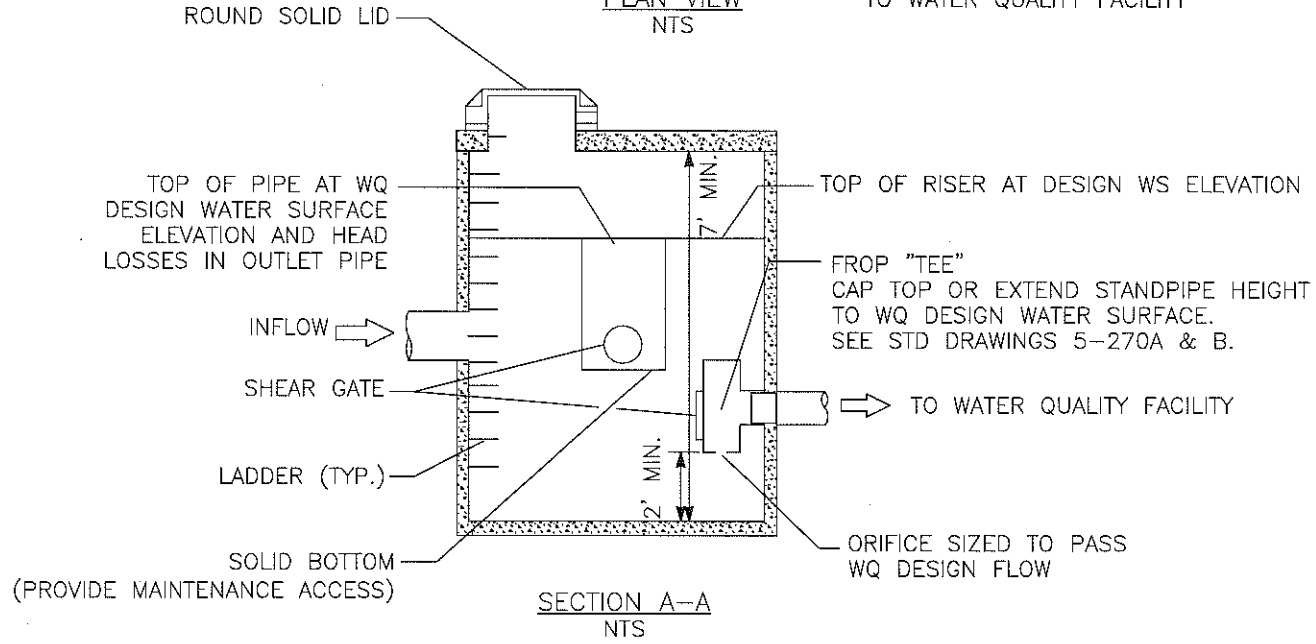
SECTION A–A
NTS

NOTE: THE WATER QUALITY DISCHARGE PIPE MAY REQUIRE AN ORIFICE PLATE TO BE INSTALLED ON THE OUTLET TO CONTROL THE HEIGHT OF THE DESIGN WATER SURFACE (WEIR HEIGHT). THE DESIGN WATER SURFACE SHOULD BE SET TO PROVIDE A MINIMUM HEADWATER/DIAMETER RATIO OF 2.0 ON THE OUTLET PIPE.

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: 9/23/10
5–250A	FLOW SPLITTER, OPTION A	COUNTY ROAD ENGINEER — DATE



PLAN VIEW
NTS

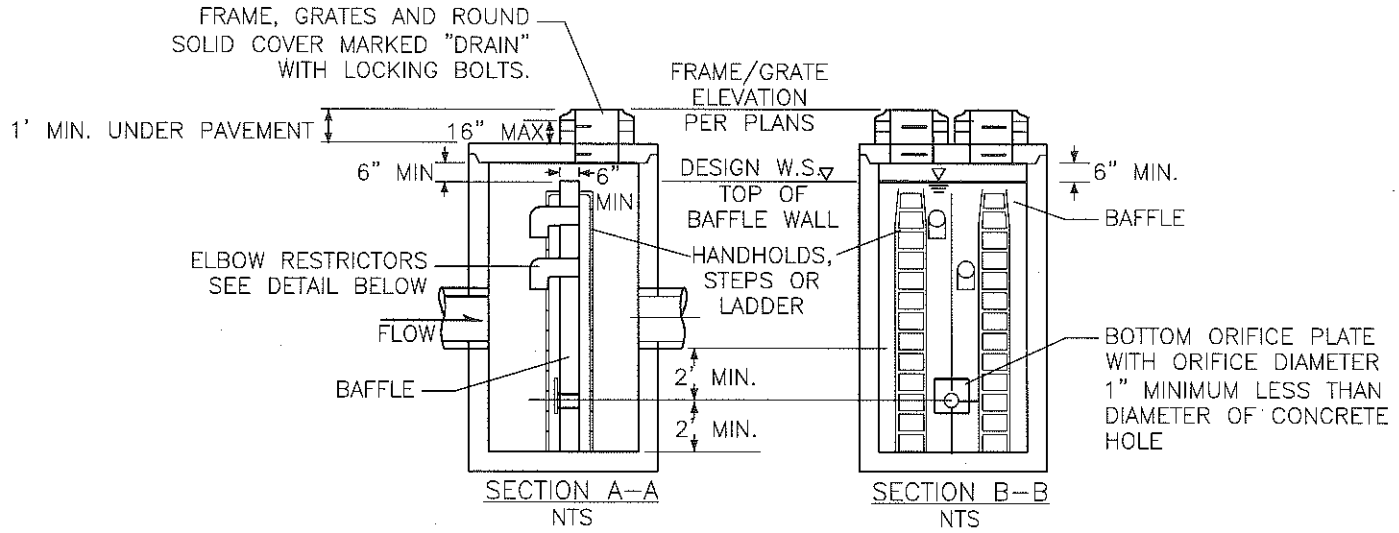


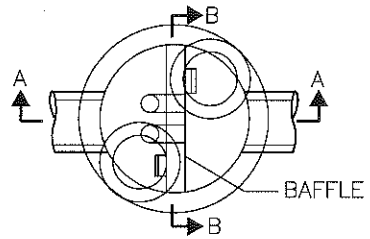
SECTION A-A
NTS

NOTE 1: SHEAR GATES TO BE INSTALLED WITH ALUMINUM TUBE LIFT ROD AND HANDLE. LIFT ROD MUST REACH AND REST ON TOP LADDER RUNG.

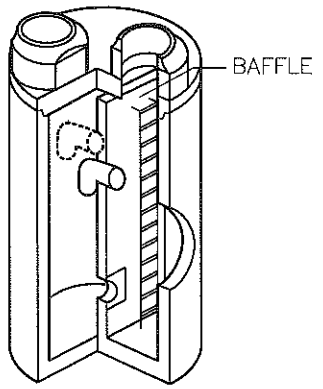
NOTE 2: DIAMETER (D) OF STANDPIPE SHOULD BE LARGE ENOUGH TO MINIMIZE HEAD ABOVE WQ DESIGN WS AND TO KEEP WQ DESIGN FLOWS FROM INCREASING MORE THAN 10% DURING 100-YEAR FLOWS.

SNOHOMISH COUNTY PUBLIC WORKS		APPROVED BY: 9/23/10
5-250B	FLOW SPLITTER, OPTION B	COUNTY ROAD ENGINEER — DATE





PLAN VIEW
NTS



ISOMETRIC
NTS

NOTES:

1. SEE CONSTRUCTION PLANS OR CONTRACT FOR SIZE AND LOCATION OF ALL PIPES AND ORIFICES.

2. BAFFLE WALL SHALL HAVE #4 BAR AT 12" SPACING EACH WAY.

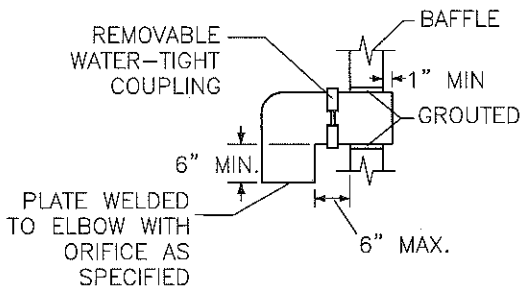
3. PRECAST BAFFLE SHALL BE KEYED AND GROUTED IN PLACE.

4. BOTTOM ORIFICE PLATE SHALL BE GALVANIZED STEEL WITH A MINIMUM THICKNESS OF 1/4". ATTACH ORIFICE WITH 1/2" STAINLESS STEEL BOLTS.

5. UPPER FLOW ORIFICE PLATES AND ELBOWS SHALL BE ALUMINUM, ALUMINIZED STEEL OR GALVANIZED STEEL. GALVANIZED STEEL SHALL HAVE TREATMENT 1.

6. CATCHBASIN: TYPE 2 MINIMUM 72" DIAMETER

7. ORIFICES: SIZED AND LOCATED AS REQUIRED WITH LOWEST ORIFICE A MINIMUM OF 2' FROM BASE



ELBOW RESTRICTOR DETAIL
NTS

SNOHOMISH COUNTY PUBLIC WORKS

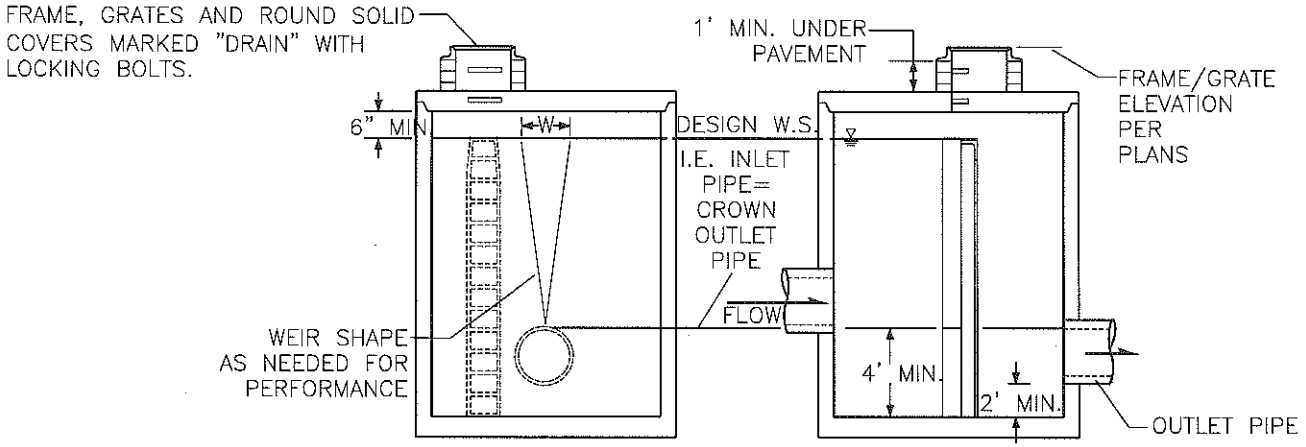
5–260

FLOW RESTRICTOR (BAFFLE)

APPROVED BY:

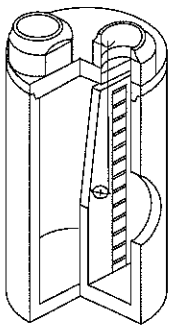
COUNTY ROAD ENGINEER

9/23/10
DATE

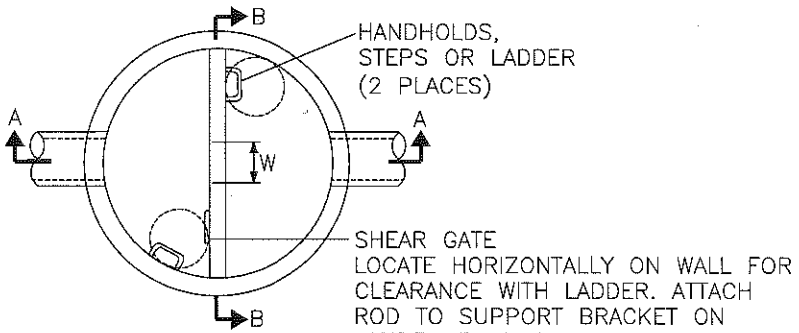


SECTION B–B
NTS

SECTION A–A
NTS



ISOMETRIC
NTS



PLAN VIEW
NTS

NOTES:
METAL PARTS: CORROSION RESISTANT STEEL PARTS GALVANIZED AND ASPHALT COATED.
CATCHBASIN: TYPE 2 MIN. 72" DIAMETER .
BAFFLE WALL: TO BE DESIGNED WITH CONCRETE REINFORCING AS REQUIRED.
SPILL CONTAINMENT MUST BE PROVIDED TO TEMPORARILY DETAIN OIL OR FLOATABLE POLLUTANTS IN RUNOFF DUE TO ACCIDENTAL SPILL OR ILLEGAL DUMPING.

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: 9/23/10
5–265	FLOW RESTRICTOR (WEIR)	COUNTY ROAD ENGINEER DATE

NOTES:

1. THE PIPE SUPPORTS AND THE FLOW RESTRICTOR SHALL BE CONSTRUCTED OF THE SAME MATERIAL AND BE ANCHORED AT A MAXIMUM SPACING OF 36". ATTACH THE PIPE SUPPORTS TO THE MANHOLE WITH 5/8" STAINLESS STEEL EXPANSION BOLTS OR EMBED THE SUPPORTS INTO THE MANHOLE WALL 2". ACCESS PORTS SHALL BE PROVIDED OVER THE LADDER AND OVER THE CONTROL STRUCTURE.

2. FOR DETAILS SHOWING GRADE RING, LADDER, STEPS, HANDHOLDS AND TOP SLABS, SEE STD DWG 5-120, CATCHBASIN DETAILS.

3. THE FLOW RESTRICTOR SHALL BE FABRICATED FROM ONE OF THE FOLLOWING MATERIALS:
   0.060" CORRUGATED ALUMINUM ALLOY DRAIN PIPE
   0.064" CORRUGATED GALVANIZED STEEL DRAIN PIPE WITH TREATMENT 1
   0.064" CORRUGATED ALUMINIZED STEEL DRAIN PIPE
   0.060" ALUMINUM ALLOY FLAT SHEET, IN ACCORDANCE WITH ASTM B 209, 5052 H32 OR EPS
   HIGH DENSITY POLYETHYLENE STORM SEWER PIPE

4. OUTLET SHALL BE CONNECTED TO CULVERT OR SEWER PIPE WITH A STANDARD COUPLING BAND FOR CORRUGATED METAL PIPE OR GROUTED INTO THE BELL OF CONCRETE PIPE.

5. THE VERTICAL RISER STEM OF THE RESTRICTOR/SEPARATOR SHALL BE THE SAME DIAMETER AS THE HORIZONTAL OUTLET PIPE WITH A 8" MINIMUM SIZE.

6. FRAME AND LADDER OR STEPS TO BE OFFSET SO THAT (1) CLEANOUT GATE IS VISIBLE FROM TOP. (2) CLIMB-DOWN SPACE IS CLEAR OF RISER AND CLEANOUT GATE. (3) FRAME IS CLEAR OF CURB (IF ANY EXIST).

7. MULTI-ORIFICE ELBOWS MAY BE LOCATED AS SHOWN ON ONE SIDE OF RISER TO ASSURE LADDER CLEARANCE. SIZE OF ELBOWS TO BE DETERMINED BY THE ENGINEER.

8. RESTRICTOR PLATE WITH ORIFICE AS SPECIFIED IN THE PLANS. OMIT PLATE IF ONLY FOR POLLUTION CONTROL. SPECIFIED OPENING TO BE CUT ROUND AND SMOOTH.

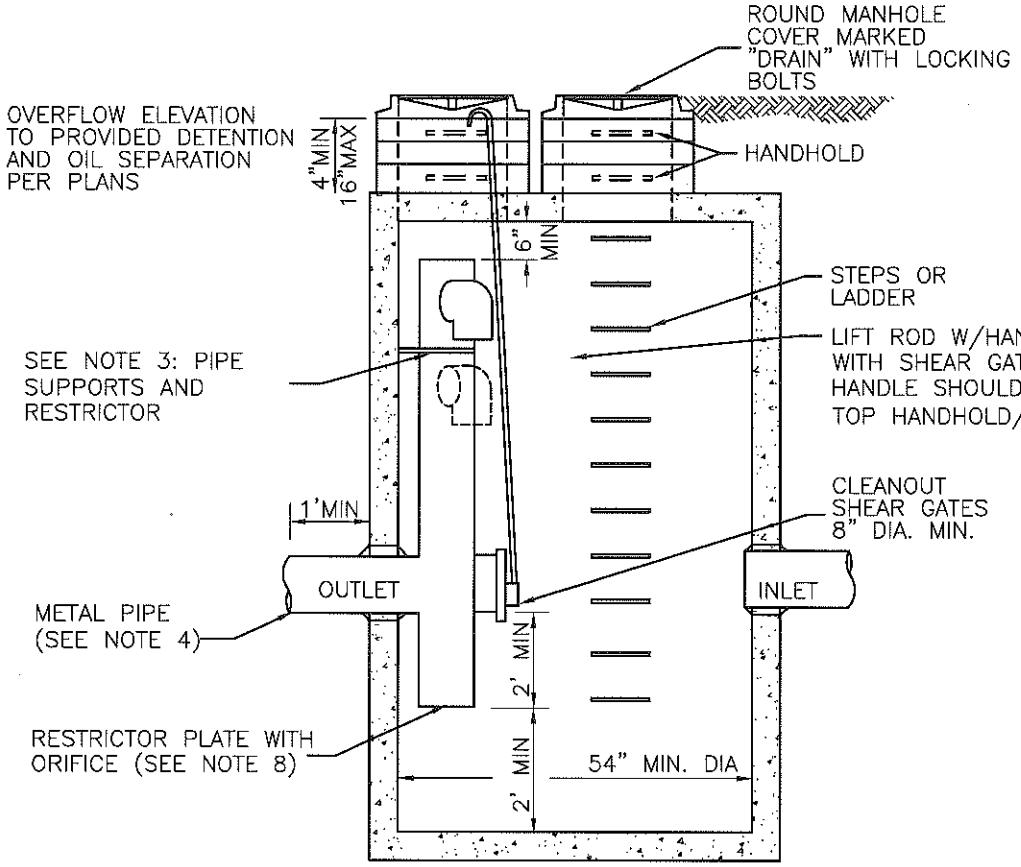
9. CLEANOUT GATE/SHEAR GATE :
ALUMINUM ALLOY PER ASTM B26-ZG32A OR CAST IRON ASTM A48 CLASS 30B AS REQUIRED.
LIFT HANDLE EITHER SOLID OR TUBING WITH ADJUSTABLE HOOK AS REQUIRED.
NEOPRENE RUBBER GASKETS REQUIRED BETWEEN FLANGES.

10. ALTERNATE CLEANOUT GATES/SHEAR GATES TO THE DESIGN SHOWN ON STD DWG 5-275 ARE ACCEPTABLE PROVIDED THEY MEET THE MATERIAL SPECIFICATIONS ABOVE AND HAVE A SIX BOLT, 10 3/8" BOLT CIRCLE FOR BOLTING TO THE FLANGE CONNECTION. 5/8" DIAMETER STAINLESS STEEL EXPANSION BOLTS SHALL BE USED.

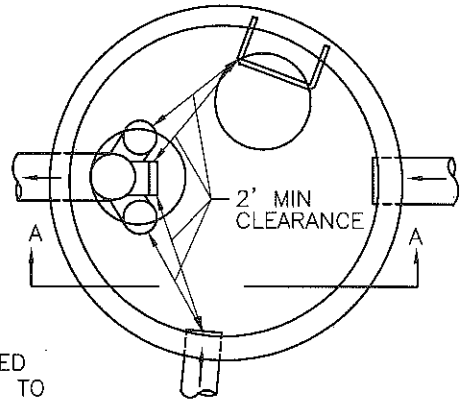
11. RESTRICTOR TEES MAY BE FABRICATED (EXTRUSION WELDED) FROM DOUBLE WALLED (SMOOTH INTERIOR) CORRUGATED POLYETHYLENE PIPE MEETING THE REQUIREMENTS OF SECTION 5-05.I OF THESE STANDARDS. PIPE SUPPORTS FOR RESTRICTOR SHALL BE FABRICATED FROM THOSE MATERIALS LISTED IN NOTE 3 ABOVE. THE OUTLET SHALL BE CONNECTED TO CULVERT OR SEWER PIPE WITH A PREMIUM COUPLING, BY USING A HEAT SHRINK ADAPTER TO OTHER TYPES OF PIPE, OR BY FABRICATING A SMOOTH OR TAPERED OUTLET TO SLIP INSIDE OF THE CULVERT OR SEWER PIPE.

SEE TEXT SECTION 5-10.F

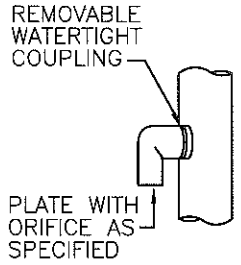
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: 9/23/10
5-270A	FLOW RESTRICTOR/ OIL POLLUTION CONTROL -T RESTRICTOR NOTES	COUNTY ROAD ENGINEER DATE



SECTION A–A

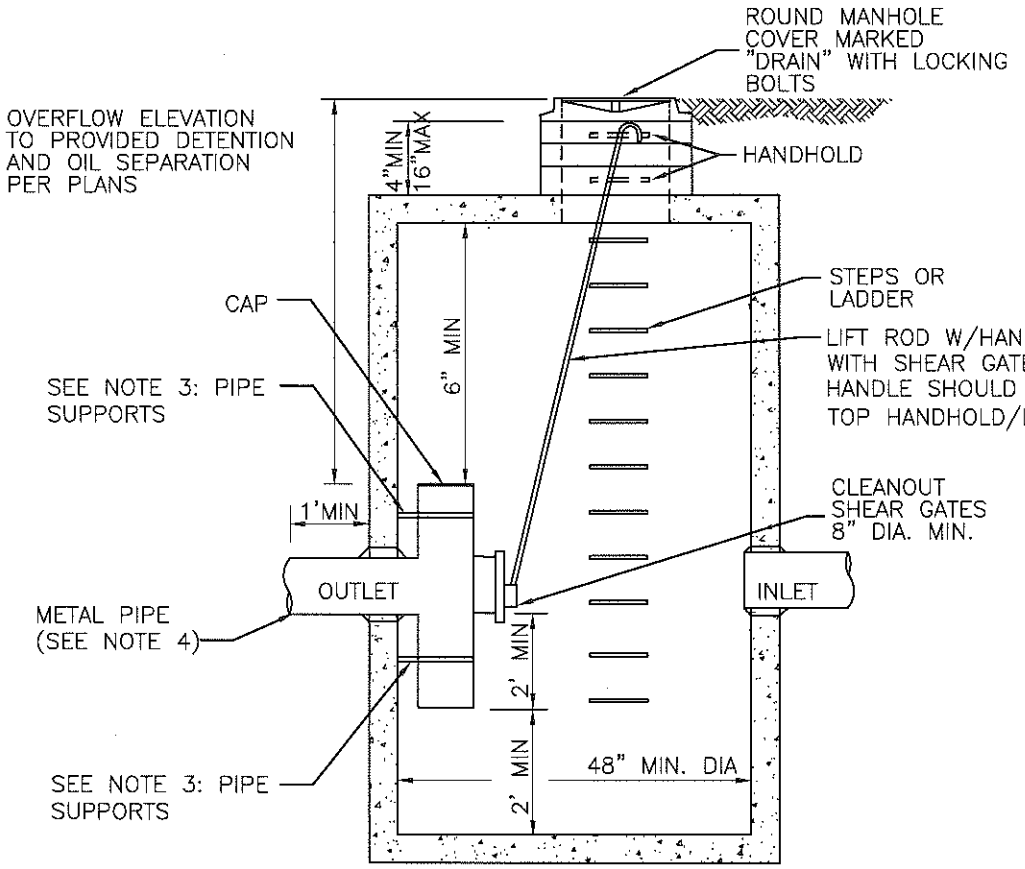


PLAN VIEW

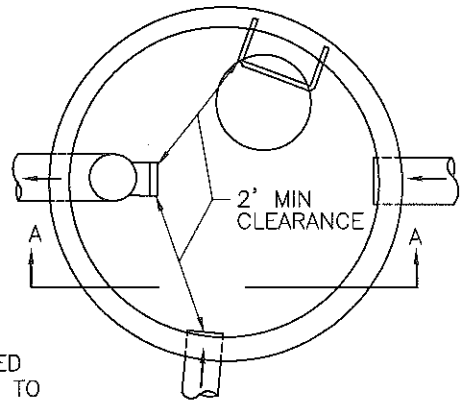


ELBOW DETAIL

SNOHOMISH COUNTY PUBLIC WORKS		APPROVED BY: 9/23/10
5-270B	FLOW RESTRICTOR/ OIL POLLUTION CONTROL –T RESTRICTOR	COUNTY ROAD ENGINEER DATE



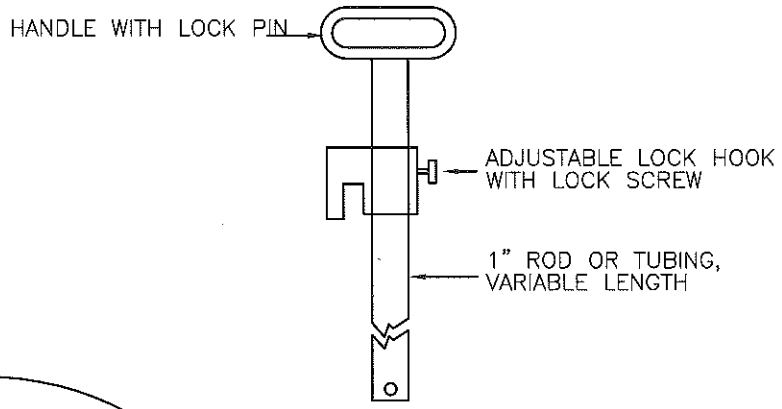
TYPE 2 CATCHBASIN
SECTION A–A



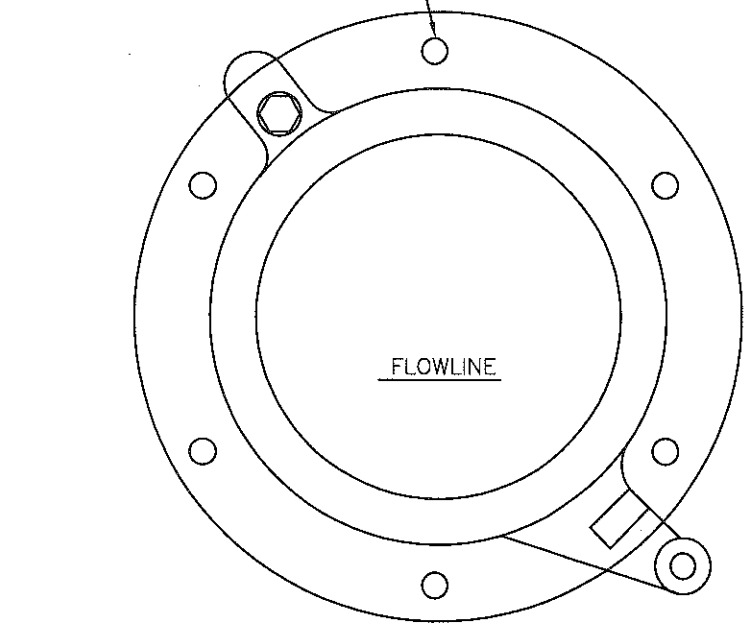
PLAN VIEW

NOTE:
48" MINIMUM DIAMETER ALLOWED IF STANDPIPE TOP IS CAPPED. SEE TEXT SECTION 5–07.

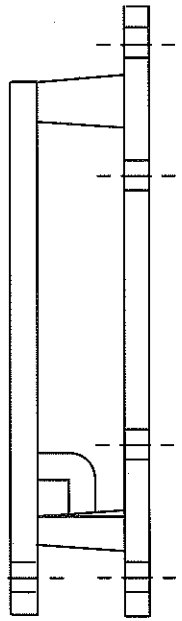
SNOHOMISH COUNTY PUBLIC WORKS		APPROVED BY: 9/23/10
5–270C	OIL POLLUTION CONTROL CATCHBASIN	COUNTY ROAD ENGINEER — DATE



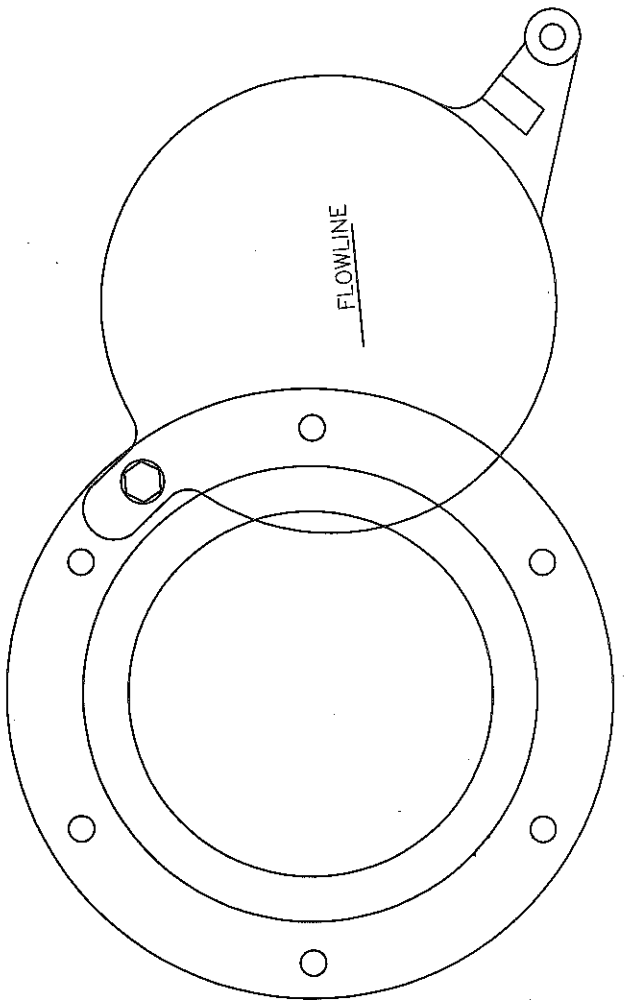
LIFT HANDLE



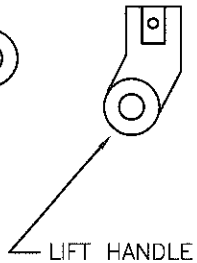
FRONT



SIDE



MAXIMUM OPENING OF GATE



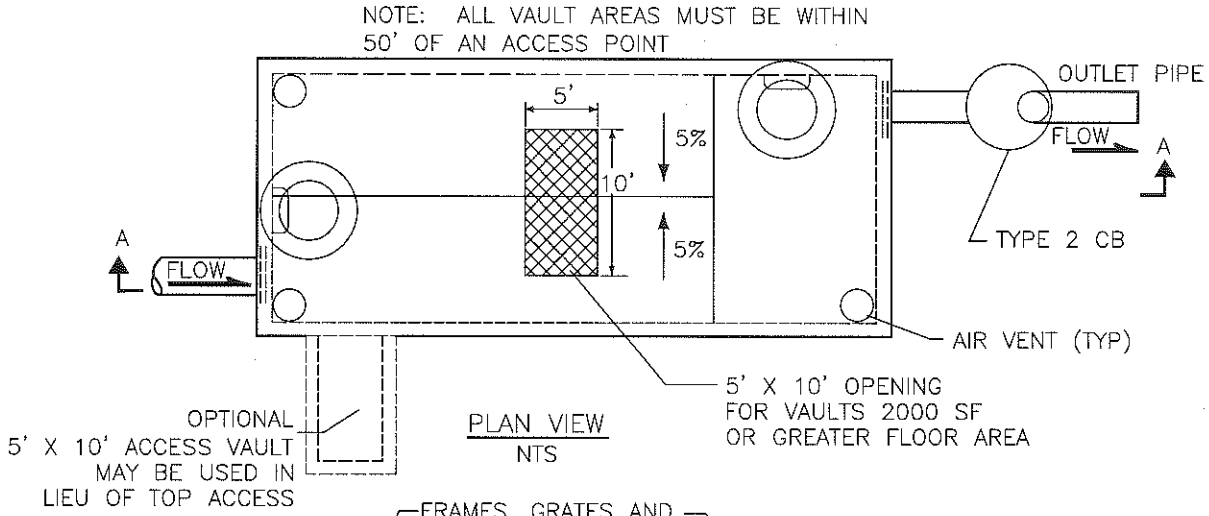
LIFT HANDLE SHALL BE ATTACHED PER MANUFACTURER'S RECOMMENDATIONS.

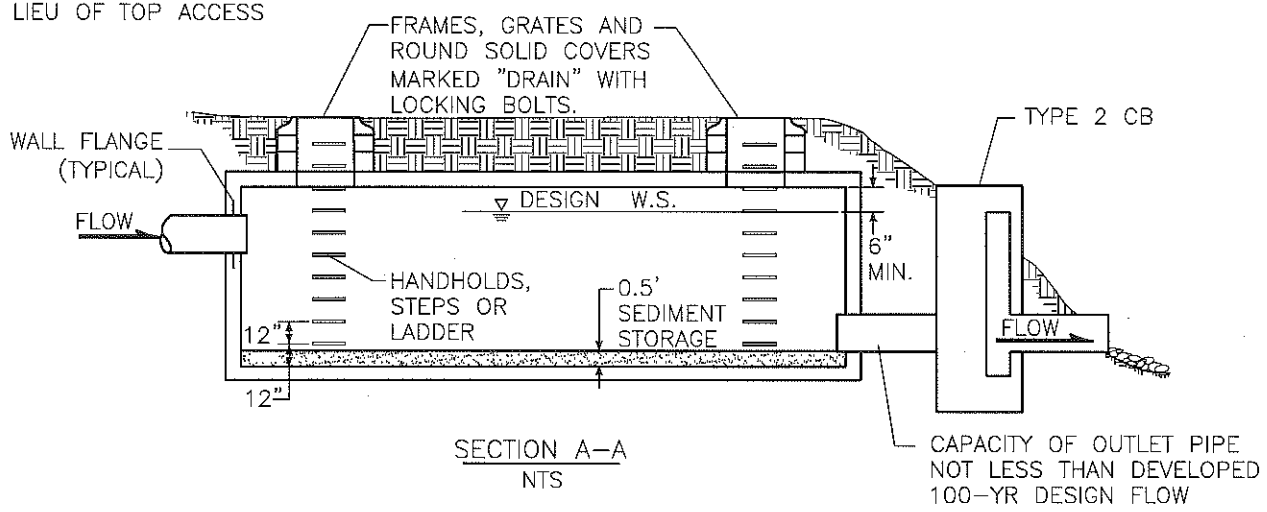
CLEANOUT/SHEAR GATE

ALTERNATES ARE ACCEPTABLE PROVIDED MATERIAL SPECIFICATIONS ARE MET AND FLANGE BOLT PATTERN MATCHES.

SEE TEXT SECTION 5-10.

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: 9/2/10
5-275	FLOW RESTRICTOR/ OIL POLLUTION CONTROL - T SHEAR GATE DETAIL	COUNTY ROAD ENGINEER DATE

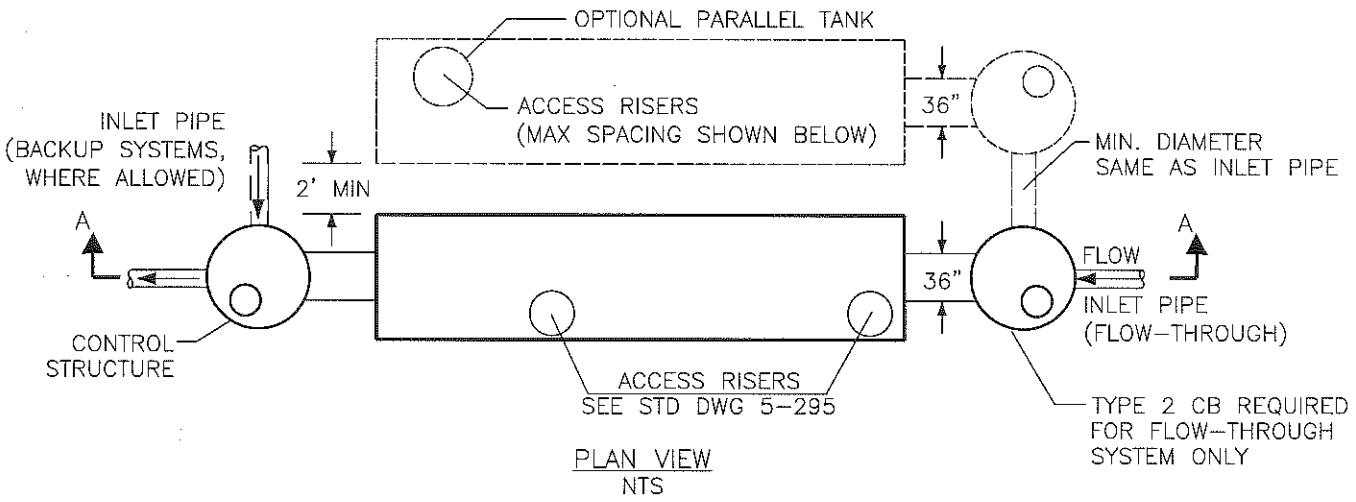




NOTES:

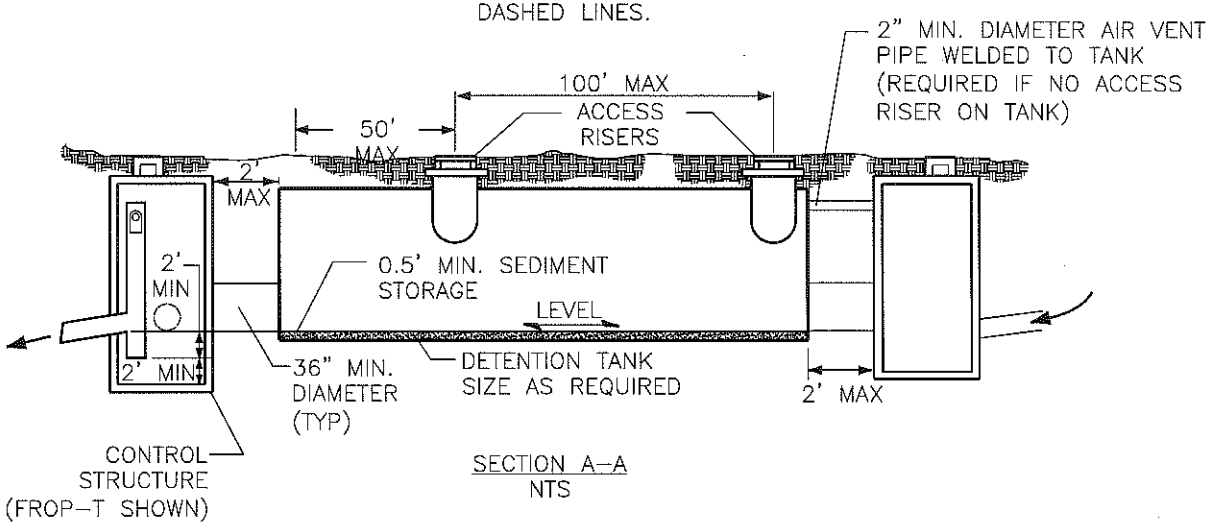
1. ALL METAL PARTS MUST BE CORROSION RESISTANT. STEEL PARTS MUST BE GALVANIZED AND ASPHALT COATED (TREATMENT 1 OR BETTER).
2. PROVIDE WATER STOP AT ALL CAST–IN–PLACE CONSTRUCTION JOINTS. PRECAST VAULTS SHALL HAVE APPROVED RUBBER GASKET SYSTEM.
3. VAULTS ≤10' WIDE MUST USE REMOVABLE LIDS.
4. PREFABRICATED VAULT SECTIONS MAY REQUIRE STRUCTURAL MODIFICATIONS TO SUPPORT 5' X 10' OPENING OVER MAIN VAULT. ALTERNATIVELY, ACCESS CAN BE PROVIDED VIA A SIDE VESTIBULE AS SHOWN.

SNOHOMISH COUNTY PUBLIC WORKS		APPROVED BY: 9/23/10
5–280	TYPICAL DETENTION VAULT	COUNTY ROAD ENGINEER — DATE



PLAN VIEW
NTS

"FLOW-THROUGH" SYSTEM SHOWN WITH SOLID LINES. DESIGN FOR "FLOW-BACKUP" SYSTEM AND PARALLEL TANKS SHOWN WITH DASHED LINES.

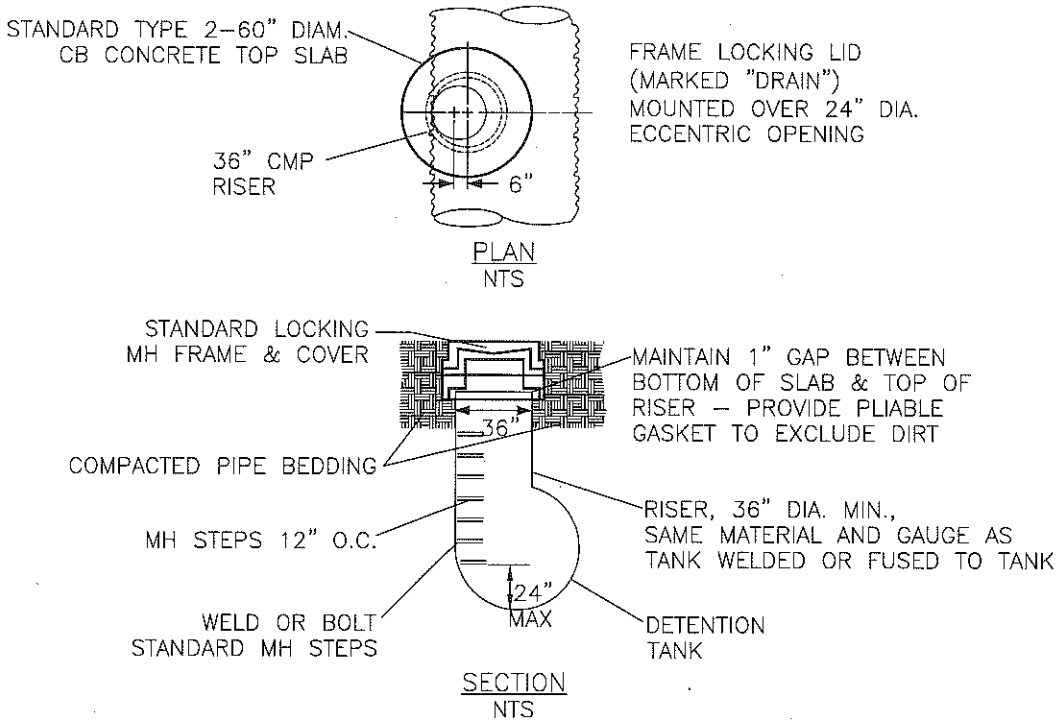


SECTION A-A
NTS

"FLOW-THROUGH" SYSTEM SHOWN WITH SOLID LINES.

NOTE:
ALL METAL PARTS CORROSION RESISTANT. STEEL PARTS GALVANIZED AND ASPHALT COATED (TREATMENT 1 OR BETTER)

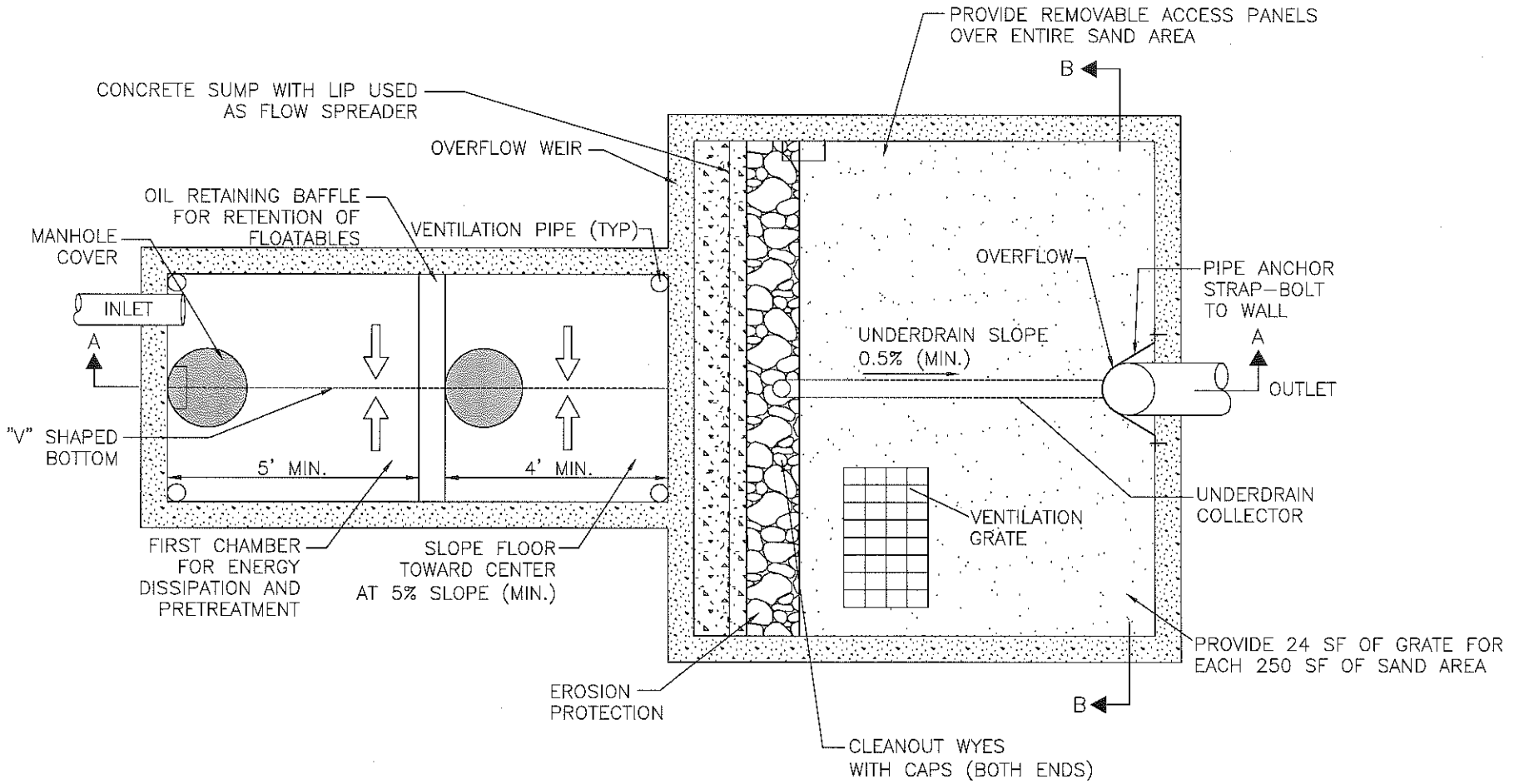
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY:
5-290	TYPICAL DETENTION TANK	COUNTY ROAD ENGINEER — DATE 9/23/10



NOTES:

1. USE ADJUSTING BLOCKS AS REQUIRED TO BRING FRAME TO GRADE.
2. ALL MATERIALS TO BE ALUMINUM OR GALVANIZED AND ASPHALT–COATED (TREATMENT 1 OR BETTER).
3. MUST BE LOCATED FOR ACCESS BY MAINTENANCE VEHICLES.

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY:
5–295	DETENTION TANK ACCESS DETAIL	COUNTY ROAD ENGINEER — DATE 9/23/10



PLAN VIEW
NTS

SNOHOMISH COUNTY PUBLIC WORKS

5–300A

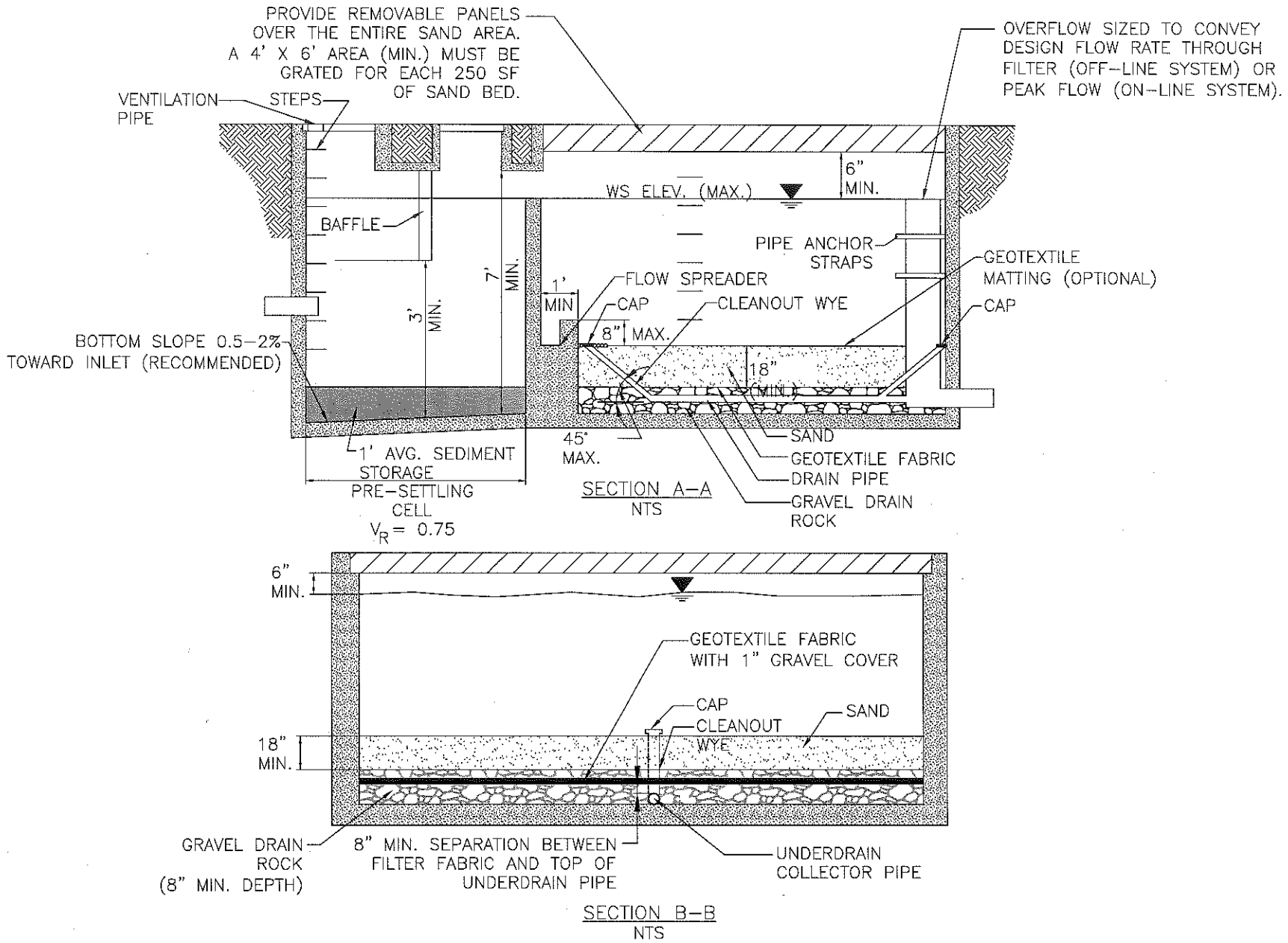
SAND FILTER VAULT

APPROVED BY:

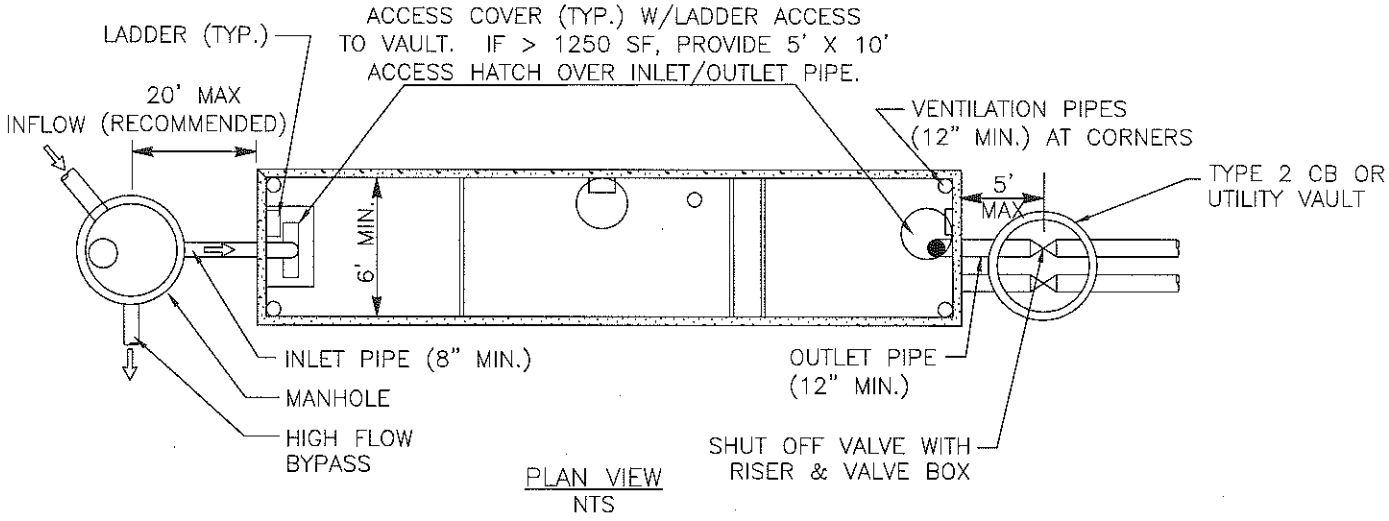
COUNTY ROAD ENGINEER

9/23/10

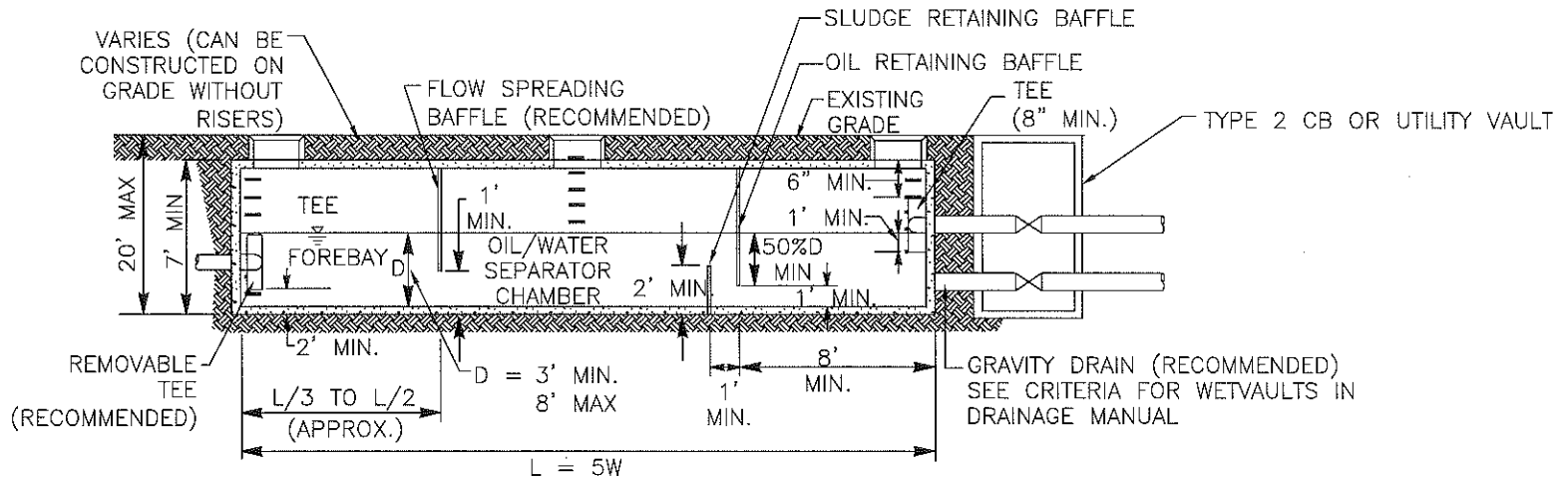
DATE



	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY:
5-300B	SAND FILTER VAULT	COUNTY ROAD ENGINEER — DATE 9/23/10

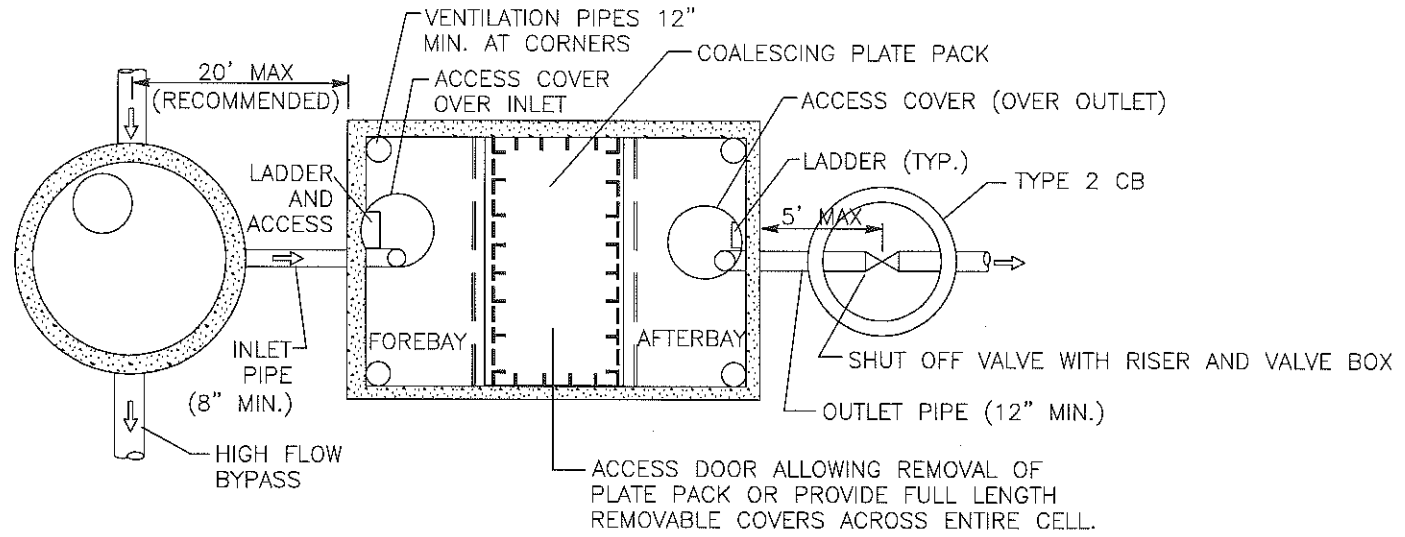


PLAN VIEW
NTS

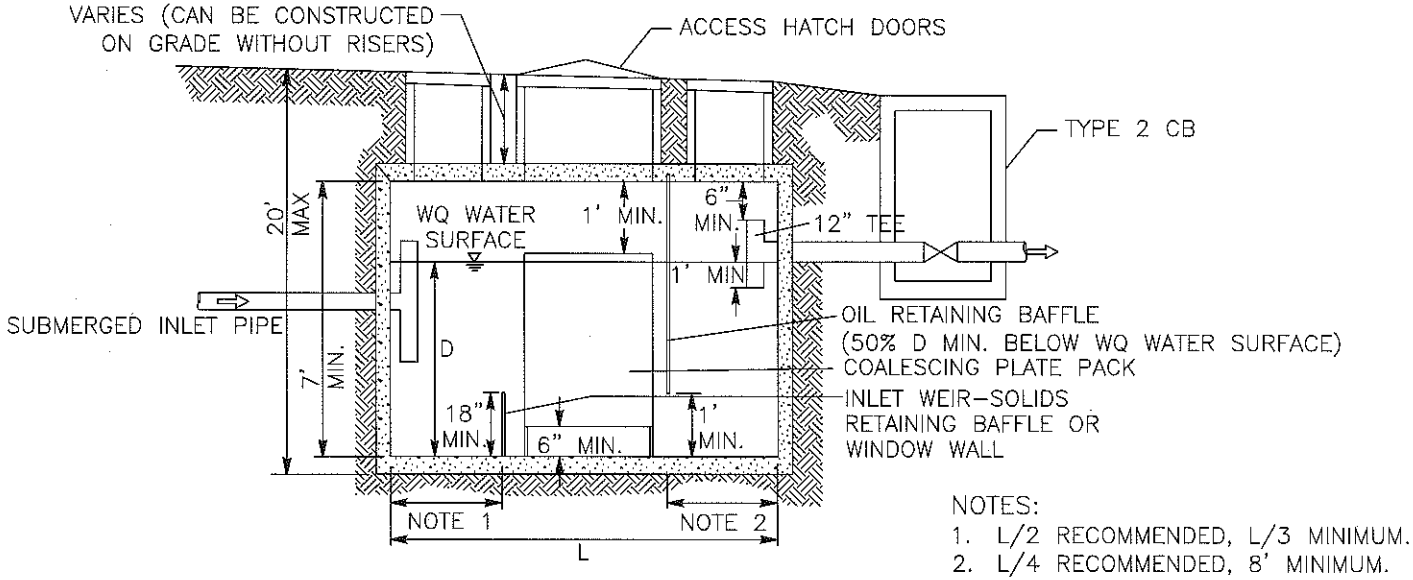


SECTION VIEW
NTS

SNOHOMISH COUNTY PUBLIC WORKS		APPROVED BY:
5-310	API (BAFFLE TYPE) SEPARATOR	COUNTY ROAD ENGINEER — DATE 9/23/10



PLAN VIEW
NTS

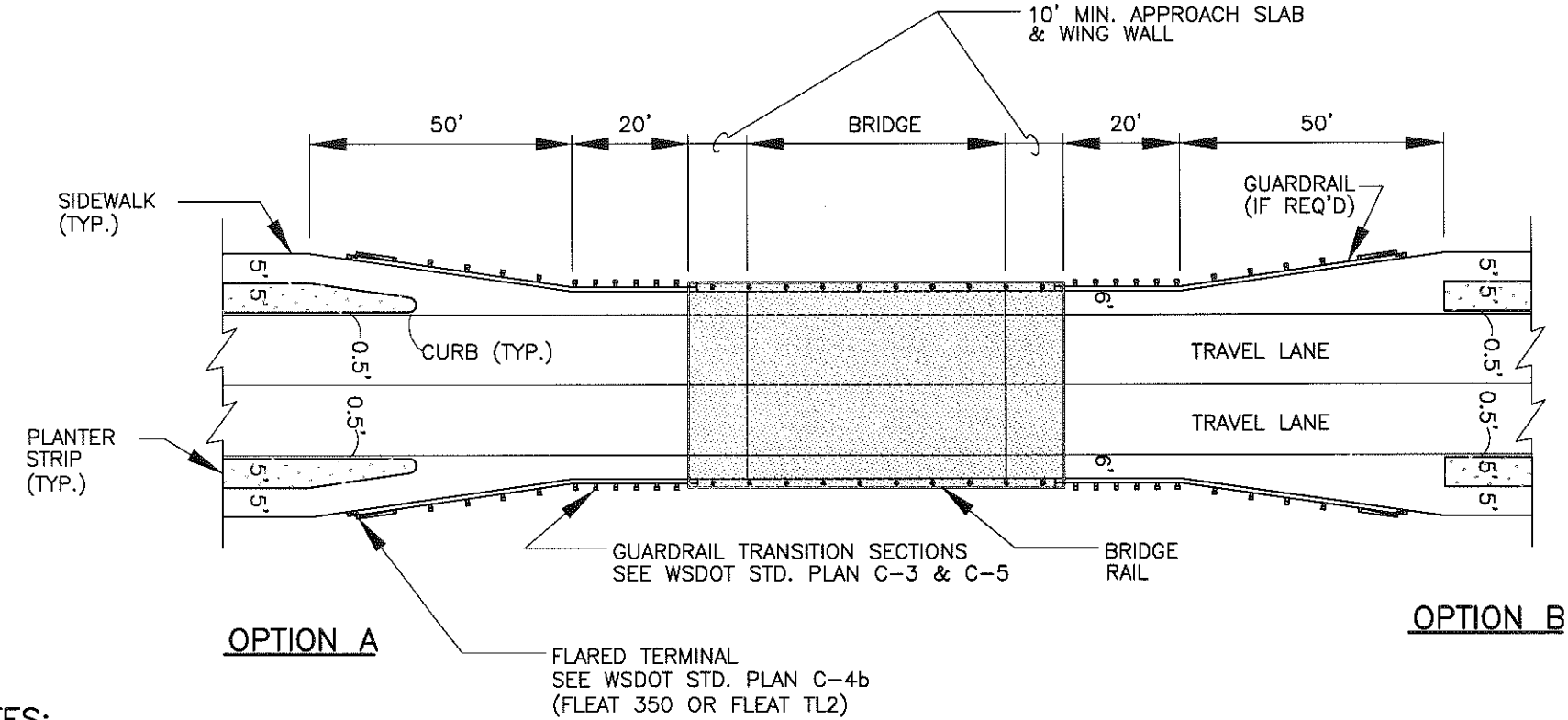


NOTES:
1. L/2 RECOMMENDED, L/3 MINIMUM.
2. L/4 RECOMMENDED, 8' MINIMUM.

SECTION VIEW
NTS

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: 9/23/10
5–315	COALESCING PLATE SEPARATOR	COUNTY ROAD ENGINEER — DATE

CHAPTER 6 DRAWING INDEX



NOTES:

1. GUARDRAIL TAPERS 9:1 MIN.

2. GUARDRAIL NOT REQUIRED WHEN POSTED SPEED IS LESS THAN 35 M.P.H.

3. OPTIONS A AND B ILLUSTRATE PLANTER STRIP END TREATMENT.

4. REFER TO WSDOT STANDARD PLANS AND SPECIFICATIONS FOR ADDITIONAL DETAILS.

SEE TEXT SECTION 6-03.

TYPICAL PLAN VIEW

N.T.S.

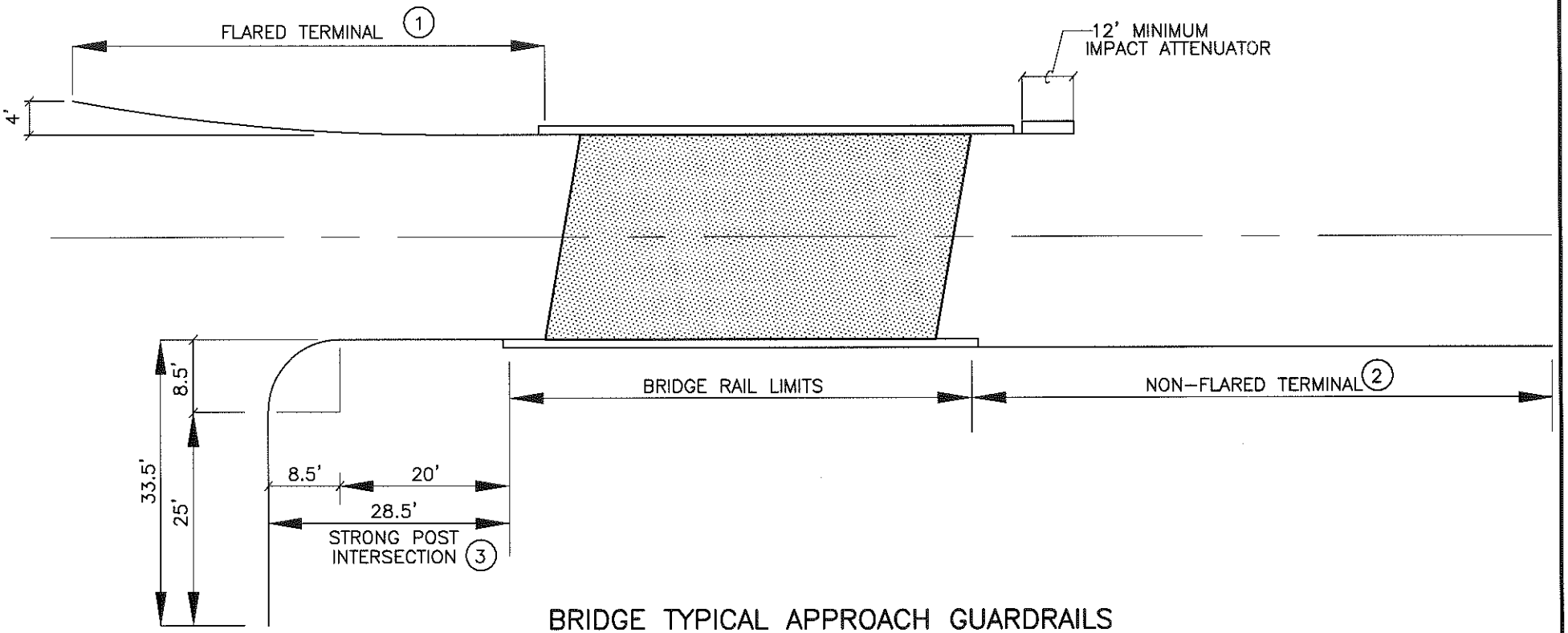
S:\TES\COMMON\EDDS\EDDS DRAWINGS\Ch6\6010.dwg

SNOHOMISH COUNTY PUBLIC WORKS

6-010 | URBAN STANDARD – TRANSITION AT BRIDGE

APPROVED BY: Steve E Thorsen 2-11-03

COUNTY ROAD ENGINEER DATE



BRIDGE TYPICAL APPROACH GUARDRAILS

N.T.S.

NOTES:

1. FLARED TERMINAL PREFERRED. REFER TO WSDOT STANDARD PLANS C-3, C-4B, AND C-5. LENGTH = 50 FT. MIN. FOR POSTED SPEED ≤40 MPH. LENGTH = 60 FT. MIN. FOR POSTED SPEED ≥45 MPH.

2. REFER TO WSDOT STANDARD PLANS C-3, C-4E, AND C-5. LENGTH = 50 FT. MIN. FOR POSTED SPEED ≤40 MPH. LENGTH = 70 FT. MIN. FOR POSTED SPEED ≥45 MPH.

3. REFER TO WSDOT STANDARD PLAN C-2F.

SEE TEXT SECTION 6-03.

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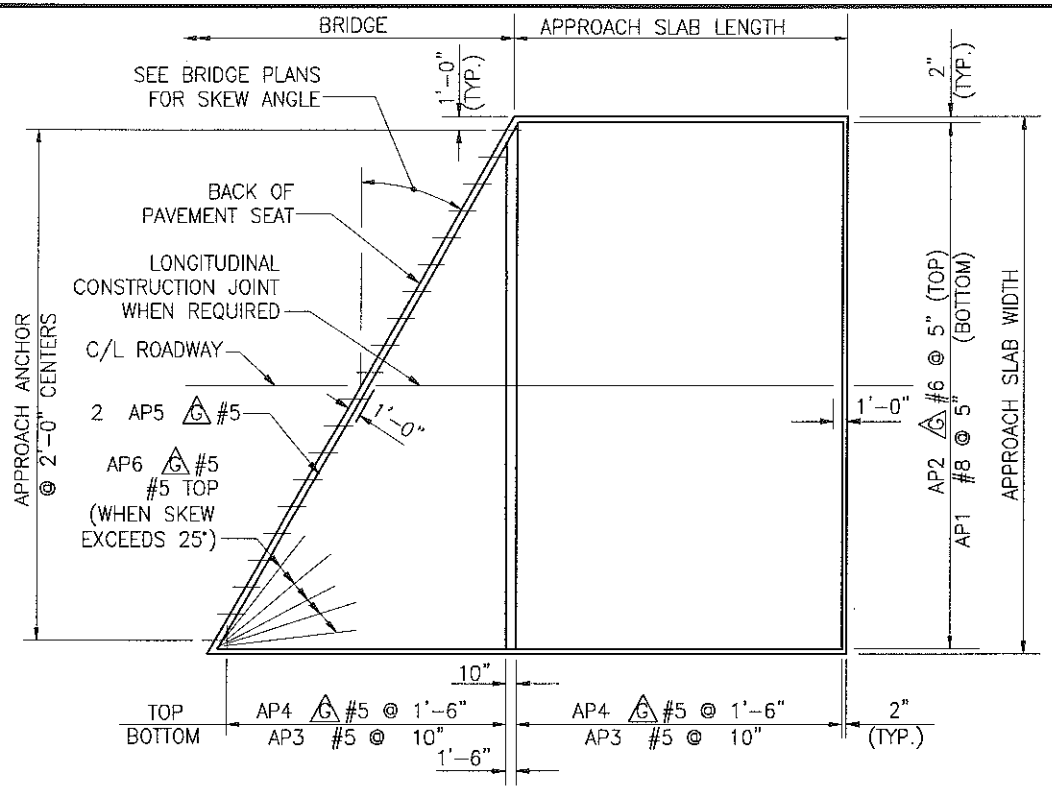
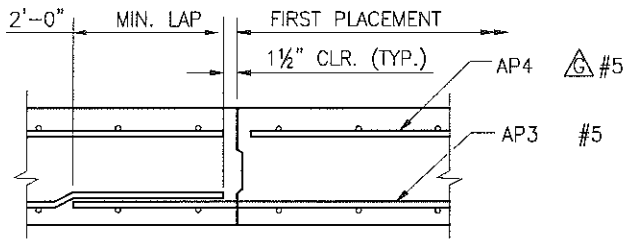
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven L Thorsen 2-10-03
	6-020 RURAL STANDARD - TRANSITION AT BRIDGE	COUNTY ROAD ENGINEER DATE



PLAN



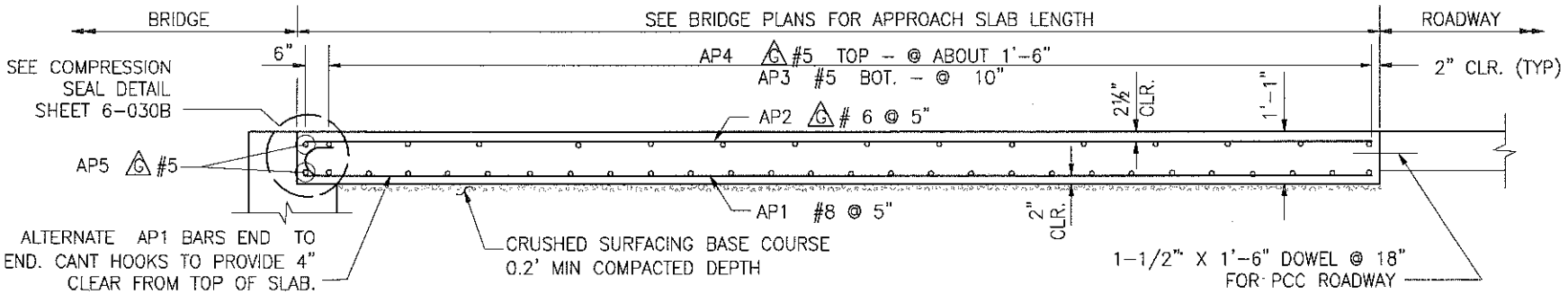
EDGE FIRST POUR ONLY WITH 1/2" RADIUS.

TYPICAL LONGITUDINAL CONSTRUCTION JOINT

N.T.S.

NOTE:

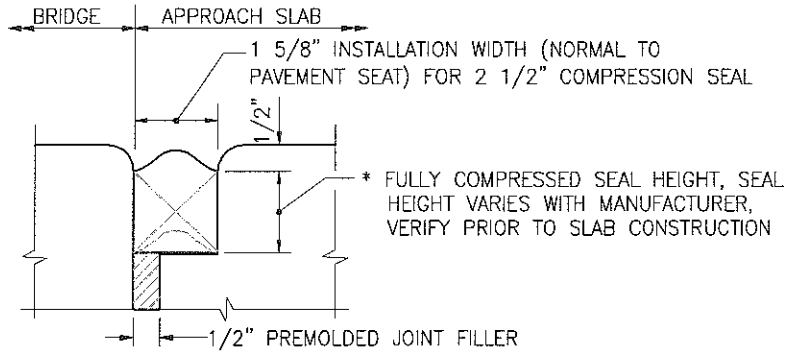
1. ALL EDGES OF APPROACH SLAB SHALL HAVE 1/2" RADIUS.
2. G =GALVANIZED REINFORCING STEEL



LONGITUDINAL SECTION

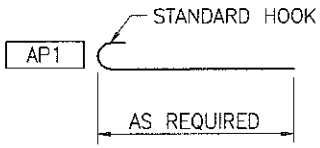
N.T.S.

SNOHOMISH COUNTY PUBLIC WORKS		APPROVED BY:
6-030A	TYPICAL BRIDGE APPROACH SLAB	COUNTY ROAD ENGINEER — DATE 9/15/09



COMPRESSION SEAL DETAIL

N.T.S.



ALL REINFORCING BARS SHALL BE AASHTO M-31 UNLESS NOTED OTHERWISE.

(G) =GALVANIZED REINFORCING STEEL

BENDING DETAIL FOR QUANTITIES

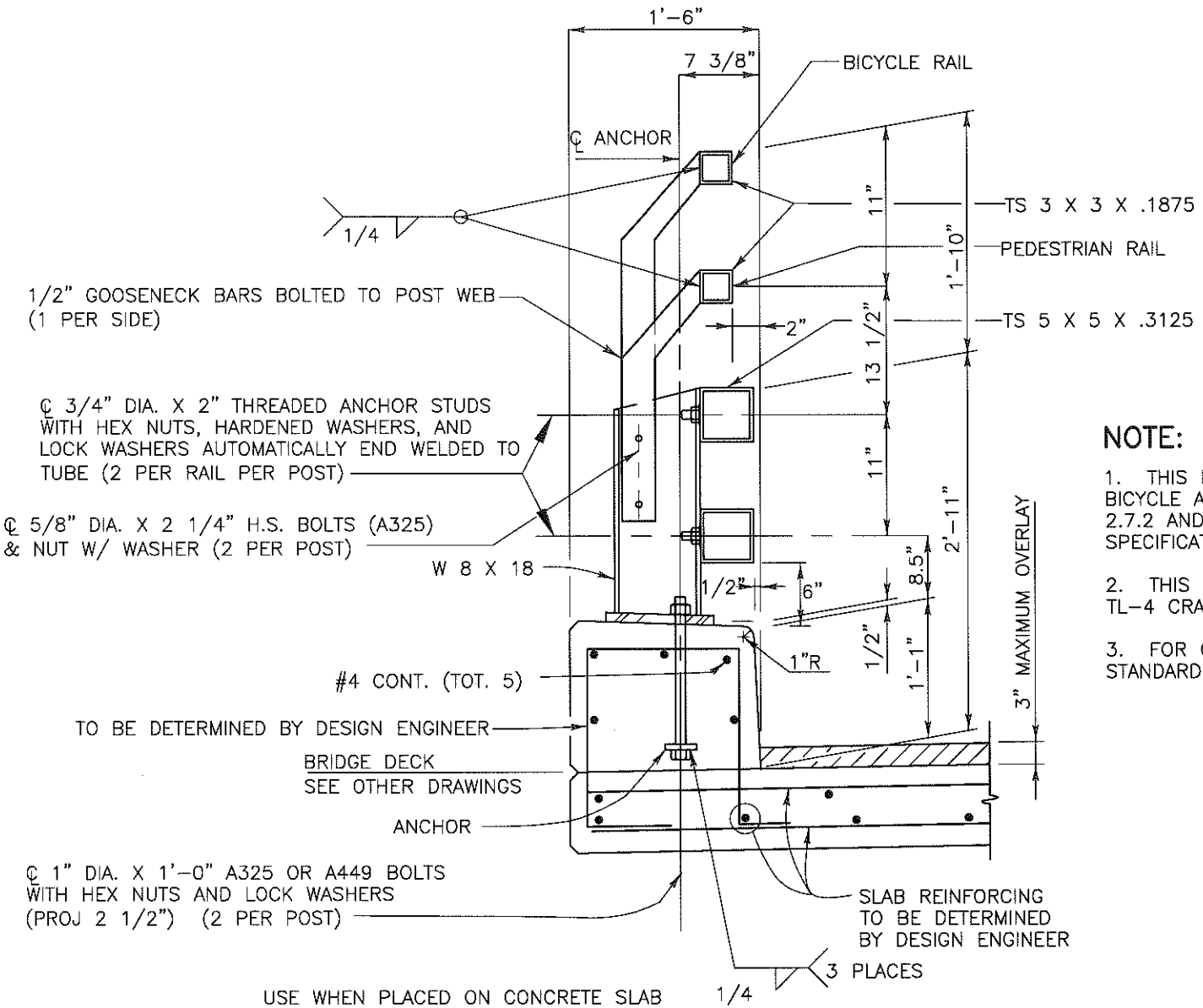
N.T.S.

APPROXIMATE QUANTITIES	AMOUNT	UNIT
SLAB GALVANIZED REINFORCING BARS (TOP MAT)	15.645	LBS/SY
SLAB REINFORCING BARS (BOTTOM MAT)	28.161	LBS/SY
CONCRETE	0.361	CY/SY

NOTE:

PAINT METAL COMPONENTS OF APPROACH ANCHOR WITH ONE COAT OF INORGANIC ZINC OR FORMULA A-11-99 PAINT IN ACCORDANCE WITH STD. SPEC. 9-08.2.

SNOHOMISH COUNTY PUBLIC WORKS		APPROVED BY:
6-030B	TYPICAL BRIDGE APPROACH SLAB	COUNTY ROAD ENGINEER — DATE 9/15/09



NOTE:

1. THIS RAIL MEETS ALL REQUIREMENTS FOR BICYCLE AND PEDESTRIAN RAILS PER SECTIONS 2.7.2 AND 2.7.3. OF AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDIGES.

2. THIS RAIL IS CERTIFIED BY FHWA FOR LEVEL TL-4 CRASH WORTHINESS.

3. FOR CONNECTION TO GUARDRAIL USE WSDOT STANDARD PLANS C-7A AND C-3 TYPE 1A.

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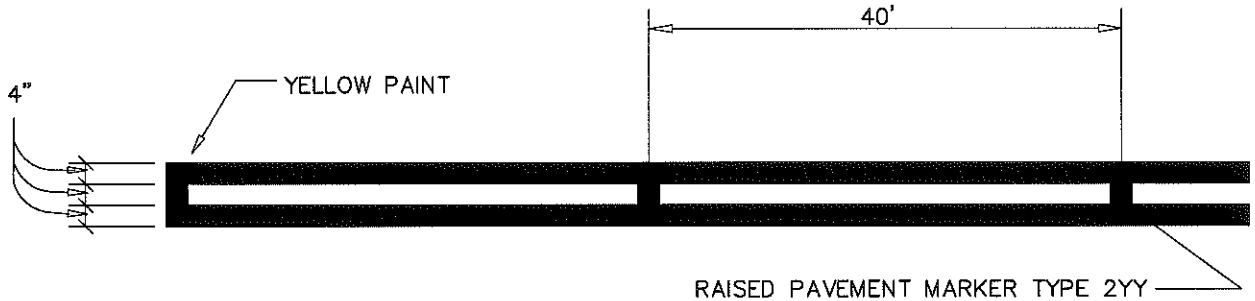
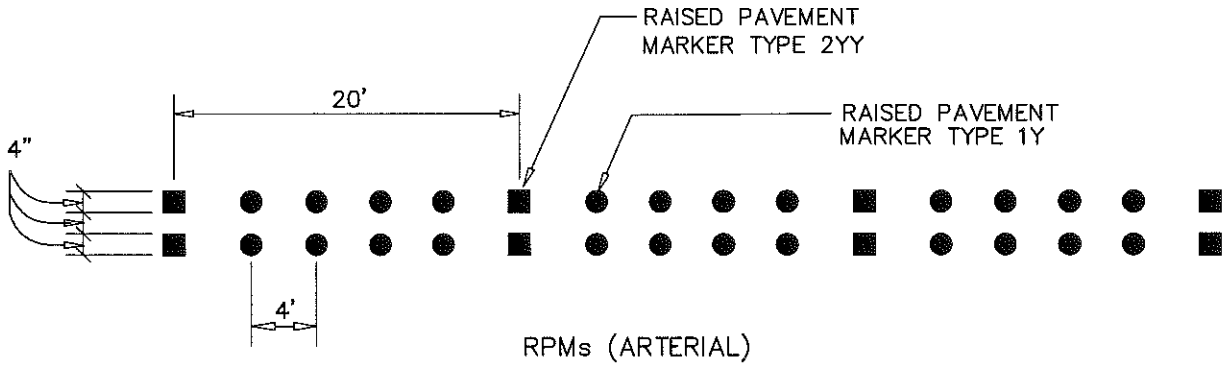
SNOHOMISH COUNTY PUBLIC WORKS		APPROVED BY: Steven E Thomsen 2-10-03
6-040	STANDARD BRIDGE RAIL	COUNTY ROAD ENGINEER DATE

CHAPTER 7 DRAWING INDEX

DOUBLE NO PASS PAINT CENTER LINE (NON–ARTERIAL)



PAINT & RPMs (ARTERIAL)



RPMs (ARTERIAL)

PASSING PROHIBITED

GENERAL NOTES:

1. PAINT IS USED FOR PAVEMENT MARKINGS ON NON–ARTERIAL ROADS.

2. RAISED PAVEMENT MARKERS (RPMs) OR A COMBINATION OF PAINT AND RPMs ARE USED ON ARTERIAL ROADS.

3. CENTERLINE MARKINGS SHALL BE PLACED ON URBAN ARTERIALS AND COLLECTORS GREATER THAN 20 FEET WIDE WITH ADT>6000. CENTERLINE MARKINGS SHALL ALSO BE PLACED ON ALL ROADS WITH THREE OR MORE TRAFFIC LANES.

NOTE:

TWO–DIRECTION NO–PASSING ZONE MARKINGS CONSIST OF TWO NORMAL SOLID YELLOW LINES. USED WHERE CROSSING THE CENTERLINE MARKINGS FOR PASSING IS PROHIBITED FOR TRAFFIC TRAVELING IN EITHER DIRECTION.

03/20/01
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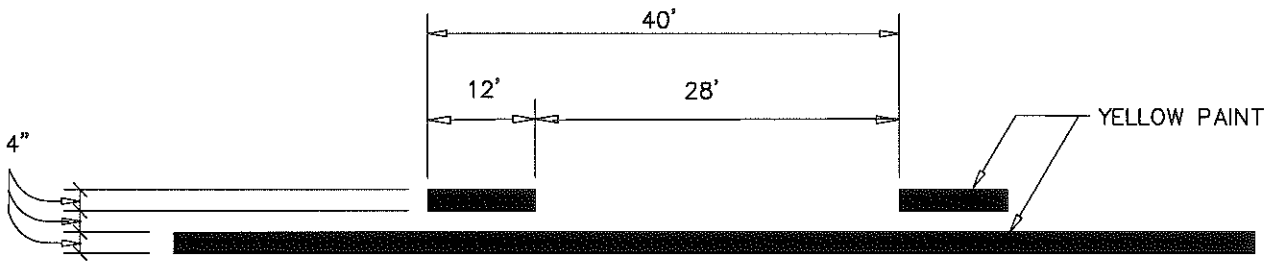
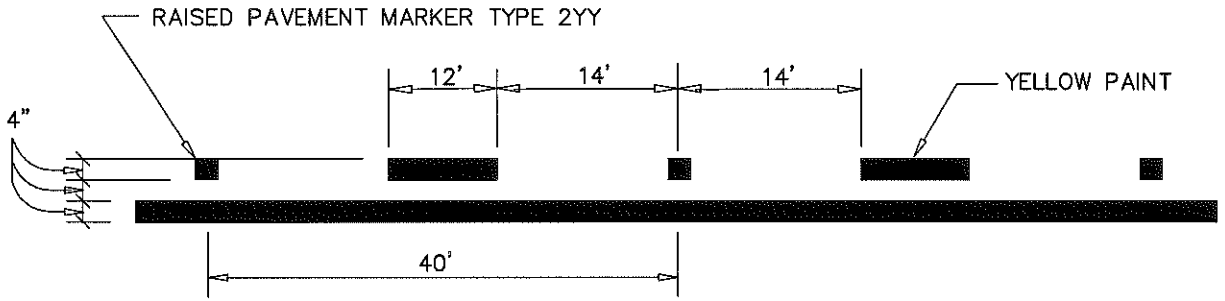
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven Thomas 2-10-03
	7–010 CENTERLINES	COUNTY ROAD ENGINEER DATE



PAINT (NON–ARTERIAL)



PAINT & RPM (ARTERIAL)

TWO–LANE, TWO–WAY TRAVEL WITH PASSING RESTRICTED

NOTE:

ONE–DIRECTION NO–PASSING ZONE MARKINGS CONSIST OF A NORMAL BROKEN YELLOW LINE AND A NORMAL SOLID YELLOW LINE. USED WHERE CROSSING THE CENTERLINE MARKINGS FOR PASSING WITH CARE IS PERMITTED FOR THE TRAFFIC TRAVELING ADJACENT TO THE BROKEN LINE, BUT IS PROHIBITED FOR TRAFFIC TRAVELING ADJACENT TO THE SOLID LINE.

03/20/01
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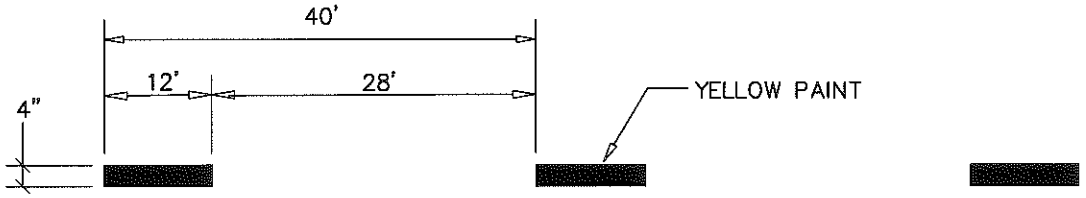
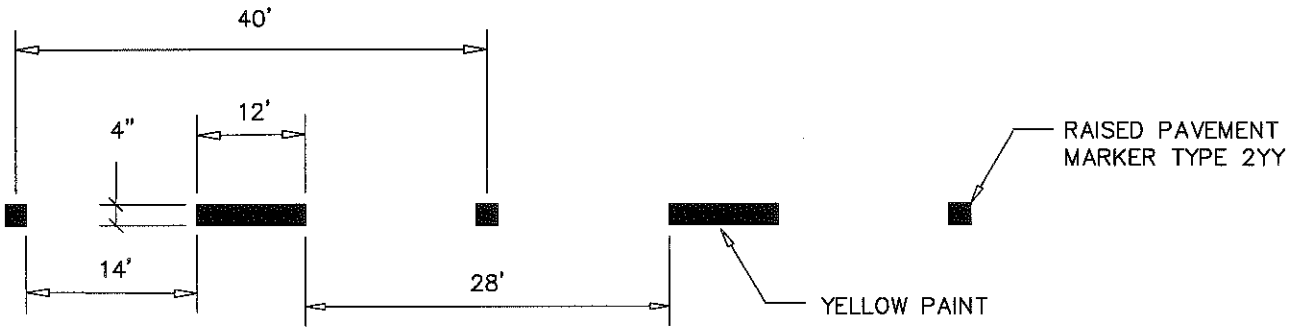
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven E Thorneo 2-10 03
7–020	CENTERLINES	COUNTY ROAD ENGINEER DATE



PAINT (NON–ARTERIAL)



PAINT AND RPM (ARTERIAL)

TWO–LANE, TWO–WAY TRAVEL WITH PASSING PERMITTED

03/20/01

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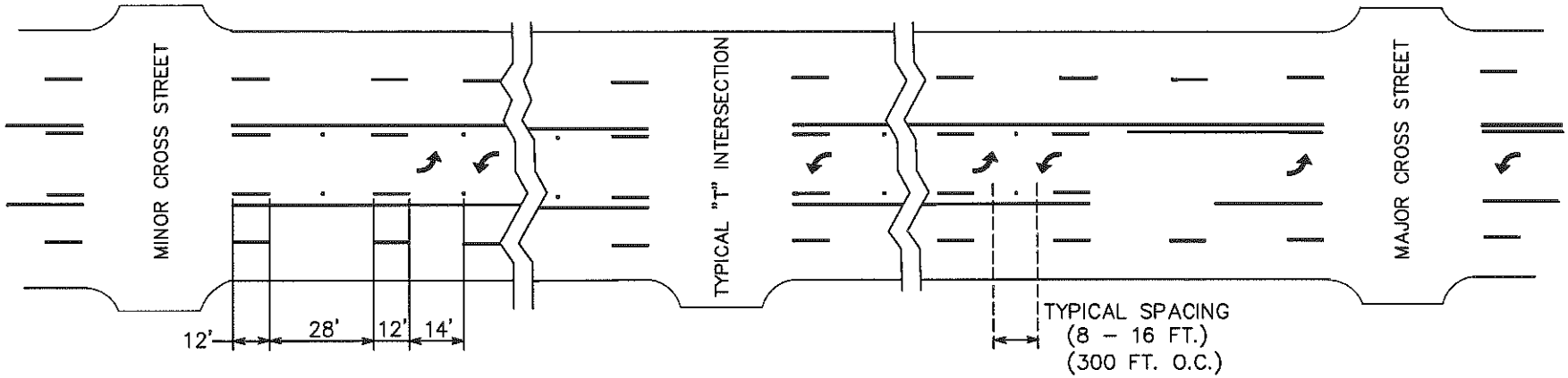
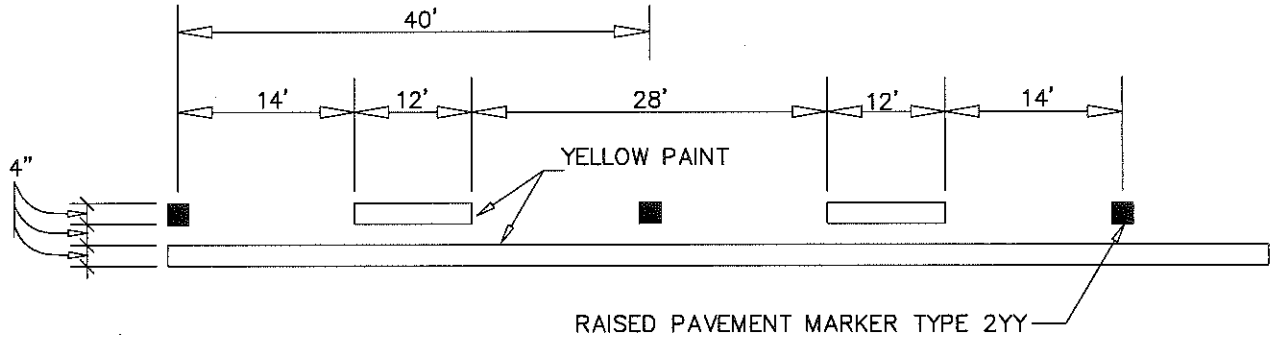
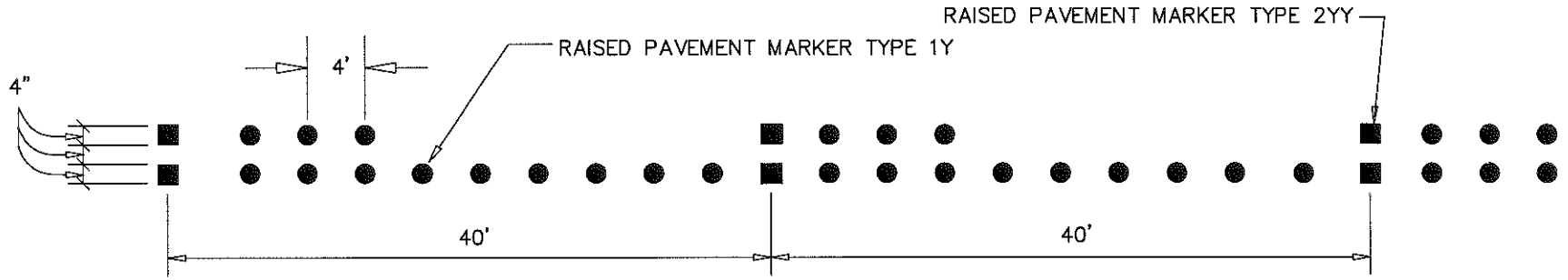
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steve E Thorne 2-10-03
7–030	CENTERLINES	COUNTY ROAD ENGINEER / DATE





PAINT AND RPM (ARTERIAL)



RPM (ARTERIAL)

03/20/01

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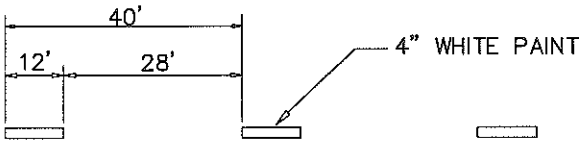
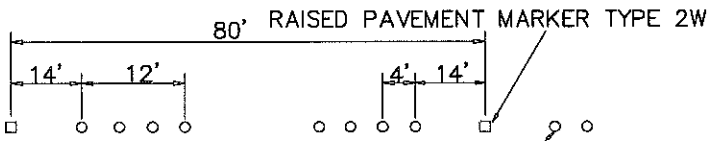
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steve E Thomsen 2-10-03
7–040	TWO WAY LEFT TURN LANE	COUNTY ROAD ENGINEER DATE

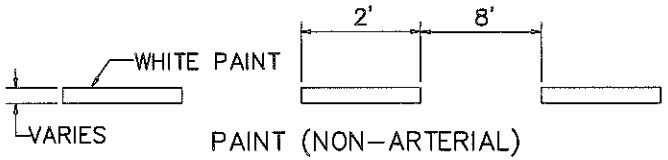


PAINT (NON–ARTERIAL)

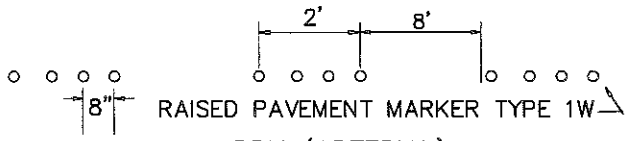


RPM (ARTERIAL)

LANE LINES



PAINT (NON–ARTERIAL)



RPM (ARTERIAL)

DROP LANE STRIPES

03/20/01

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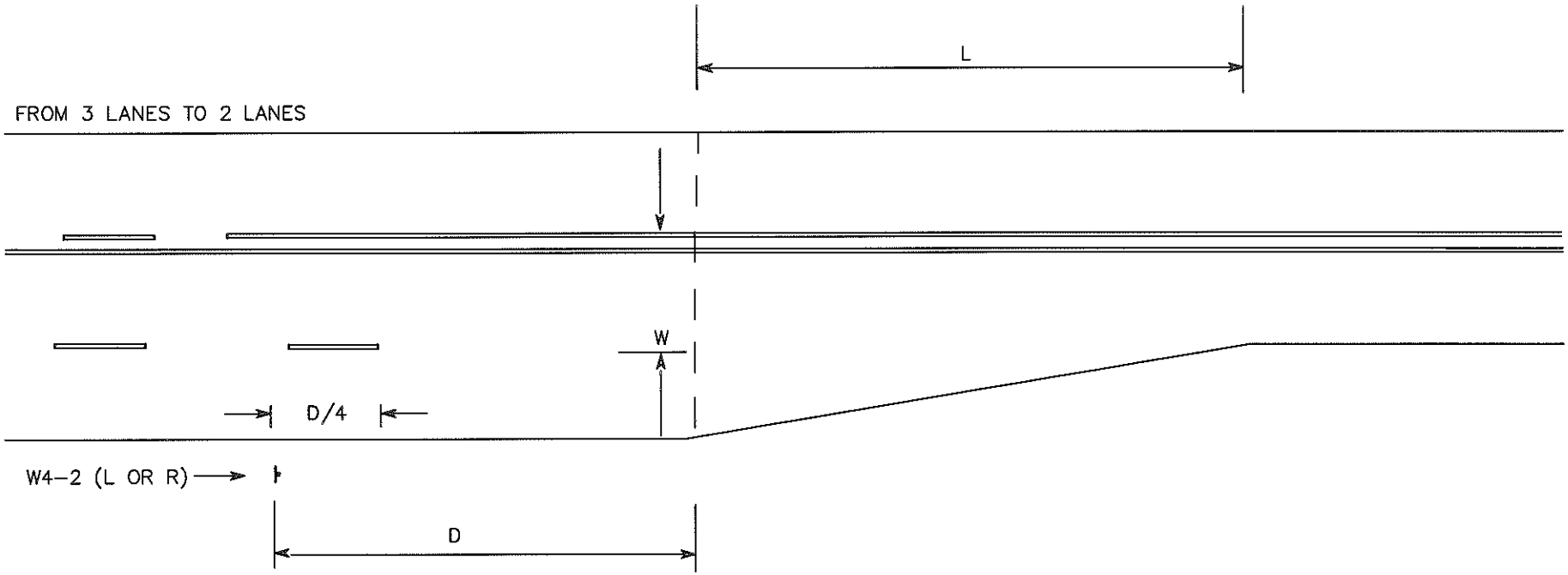
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steve E Thorsen 2-10-03
	7–050 LANE LINES/DROP LANE STRIPES	COUNTY ROAD ENGINEER DATE



STANDARD:

THE MINIMUM TAPER LENGTH SHALL BE 100 FEET IN URBAN AREAS AND 200 FEET IN RURAL AREAS.

FORMULA WHEN POSTED SPEED IS:

≥45 MPH, L=WS.

<45 MPH, L=WS²/60.

VARIABLE LEGEND:

L=LENGTH IN FEET

S=POSTED SPEED OR 85th-PERCENTILE SPEED, WHICHEVER IS GREATER.

W=OFFSET IN FEET

D=ADVANCE WARNING DISTANCE. SEE SECTION 2C.05 OF MUTCD FOR PLACEMENT.

03/20/01

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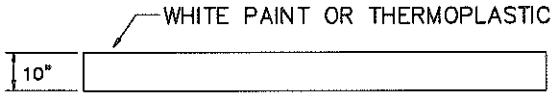
SNOHOMISH COUNTY PUBLIC WORKS

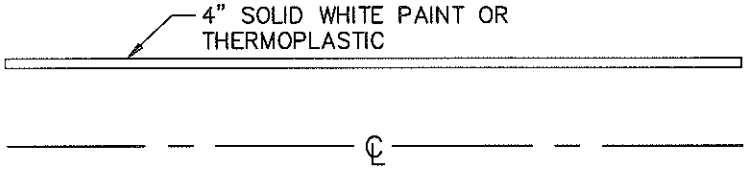
APPROVED BY: Steven E Thomsen 2-10-03

COUNTY ROAD ENGINEER DATE

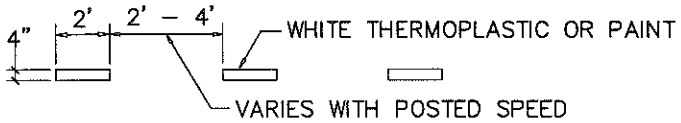
7-060 TYPICAL LANE REDUCTION TRANSITION MARKINGS



WALKWAY LINE



EDGE LINE



SKIP EDGE LINE

NOTE:
1. EDGE LINE MARKINGS SHALL BE PLACED ON PAVED ARTERIALS WITH A TRAVELED WAY OF 17 FEET OR WIDER.

2. EDGE LINE MARKINGS SHALL BE PLACED ON PAVED ROADS OR HIGHWAYS WITH THE FOLLOWING CHARACTERISTICS: RURAL ARTERIALS AND COLLECTORS WITH A TRAVELED WAY OF 20 FEET OR WIDER AND AN ADT >3,000

3. EDGE LINE MARKINGS MAY BE PLACED ON ROADS AND HIGHWAYS THAT DO NOT HAVE CENTERLINE MARKINGS.

03/20/01
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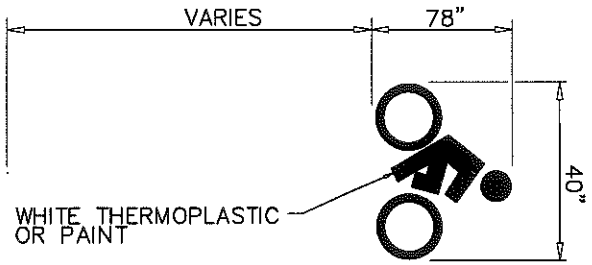
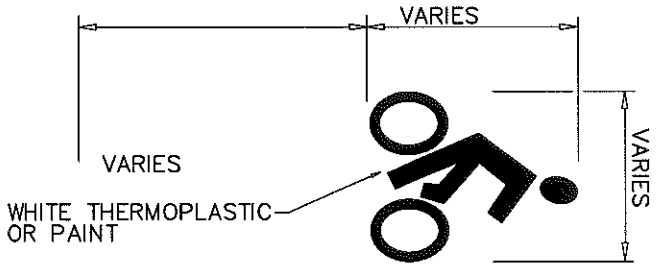
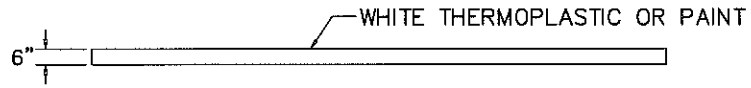
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steve Thorsen 2-10-03
7-070	WALKWAY AND EDGE LINES	COUNTY ROAD ENGINEER / DATE



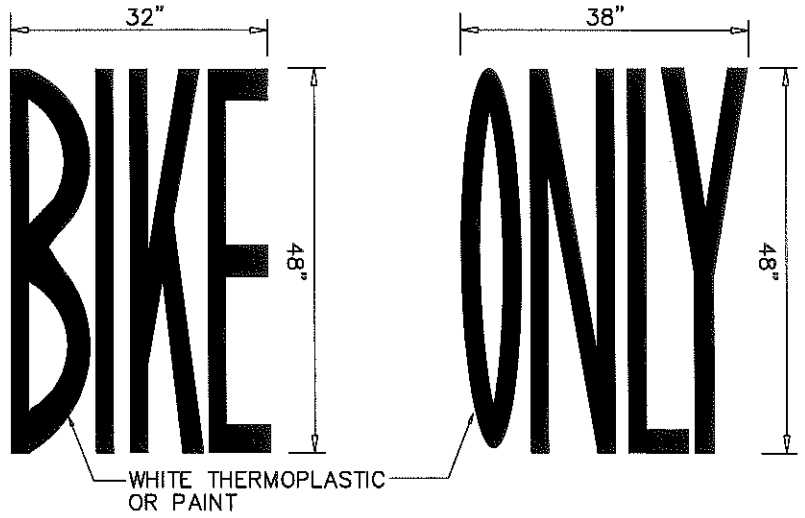


WHEN BICYCLE LANE IS <6' WIDE

SYMBOLS



STRIPE



WORD MARKINGS

NOTE:

1. BICYCLE LANE MARKINGS SHALL BE USED IN CONJUNCTION WITH BICYCLE LANE SIGNAGE.

2. BICYCLE LANE SIGNS (R3-16) SHALL BE USED IN ADVANCE OF THE BEGINNING OF A MARKED BICYCLE LANE.

03/20/01

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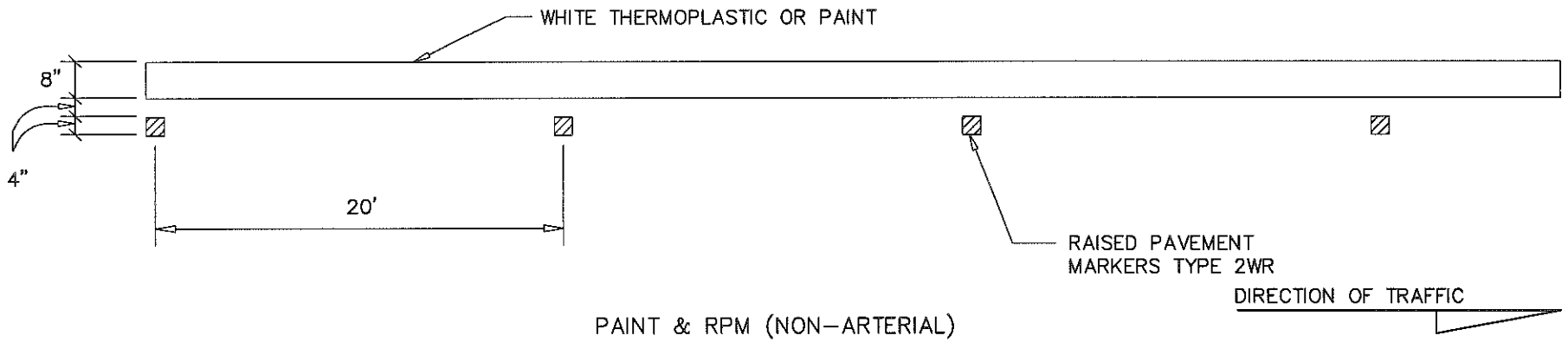
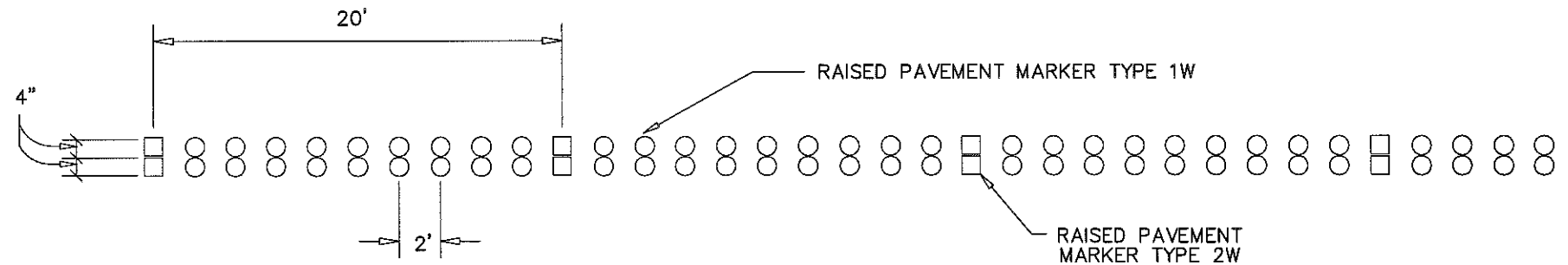
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steve E Thorsen 2-10-03
	7-080 BIKE LANE STRIPE/MARKINGS	COUNTY ROAD ENGINEER DATE



PAINT & RPM (NON–ARTERIAL)



RPM (ARTERIAL)

03/20/01

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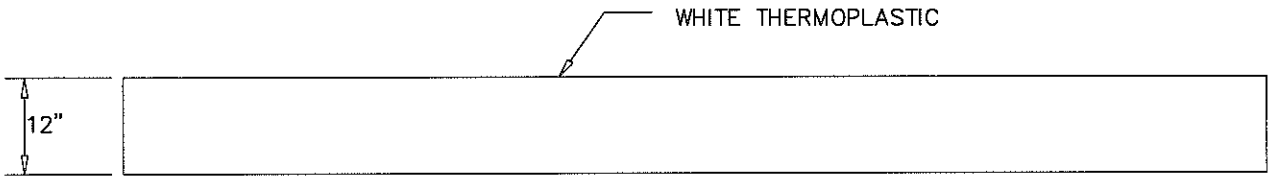
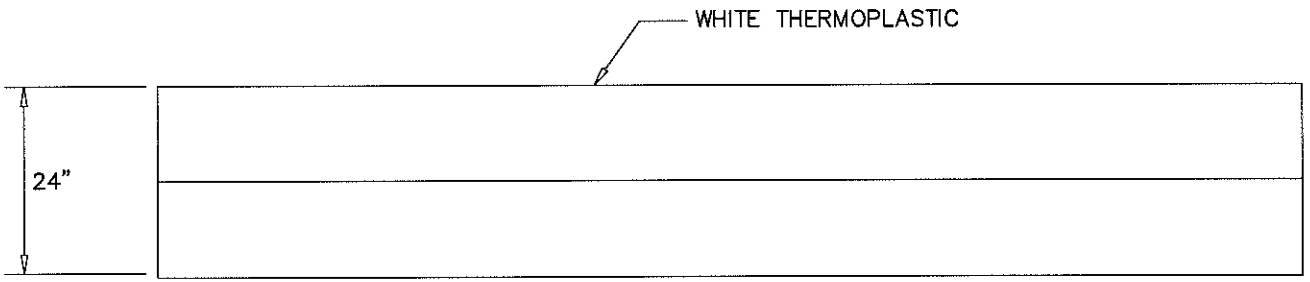
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven E Thomas 2-10-03
7–090	GORE STRIPES	COUNTY ROAD ENGINEER / DATE



NON–ARTERIAL



ARTERIAL

03/20/01

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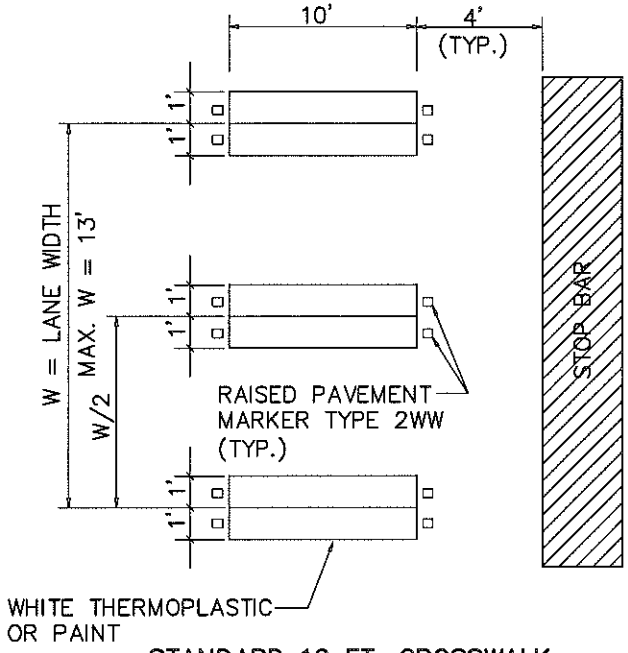
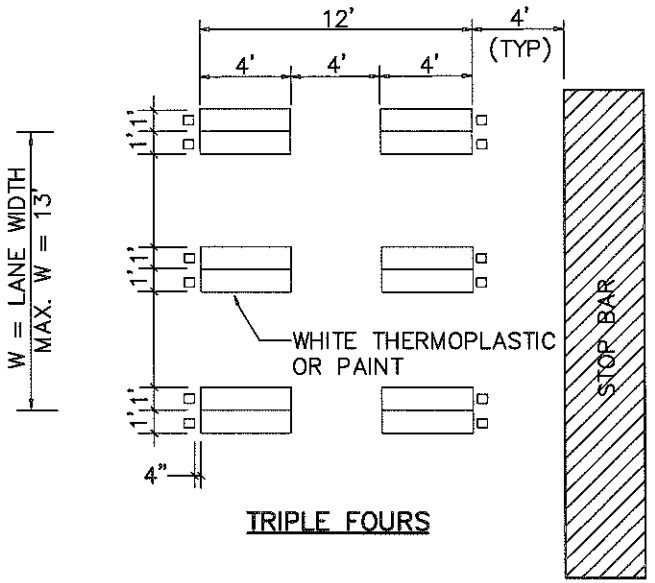
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steve E Thomsen 2-10-03
	7–100 STOP BARS	COUNTY ROAD ENGINEER DATE



STANDARD 10 FT. CROSSWALK



TRIPLE FOURS

03/20/01

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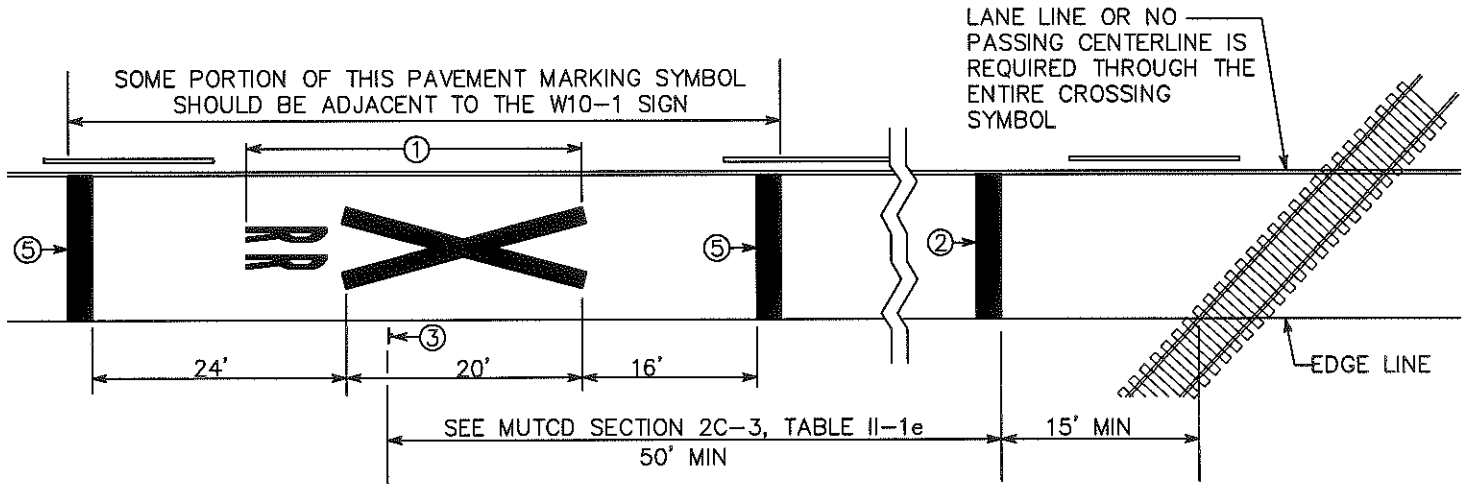
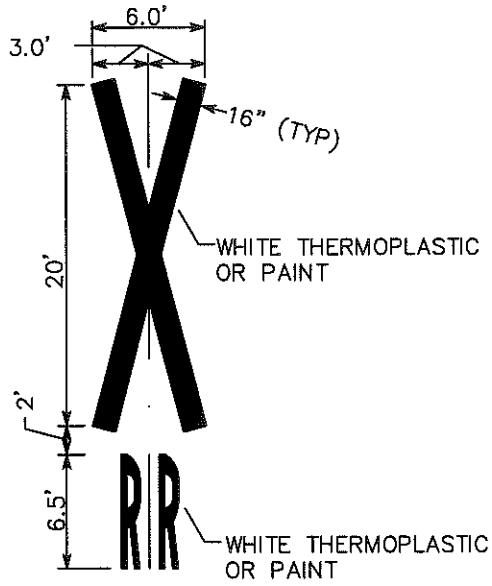
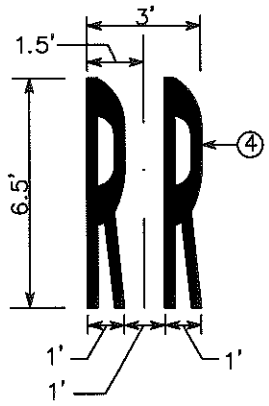
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven E Thomsen 2-10-03
7-110	CROSSWALK DETAIL	COUNTY ROAD ENGINEER DATE



RAILROAD – HIGHWAY GRADE CROSSINGS
PAVEMENT MARKING PLACEMENT DETAIL





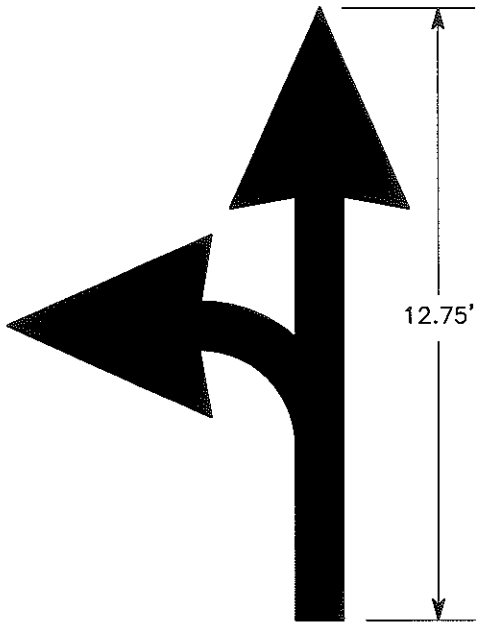
KEY

① RR CROSSING SYMBOL
② 24" STOP BAR
③ W10-1 ADVANCE WARNING SIGN
④ SEE "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING"
⑤ 24" TRANSVERSE MARKING.

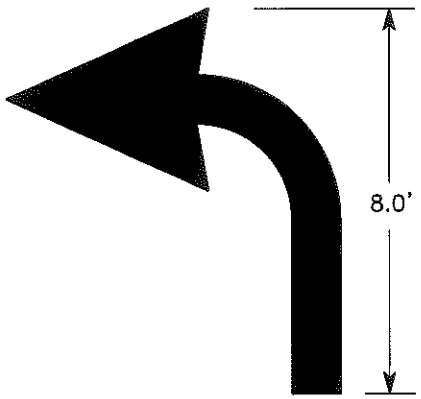
SYMBOL DETAILS

03/20/01
S:\TES\COMMON\EDDS\EDDS DRAWINGS\Ch7\NEWCHANEDDS.dwg

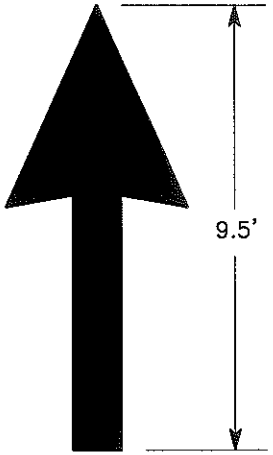
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven E Thomsen 2-10-03
7-120	RAILROAD CROSSING	COUNTY ROAD ENGINEER — DATE



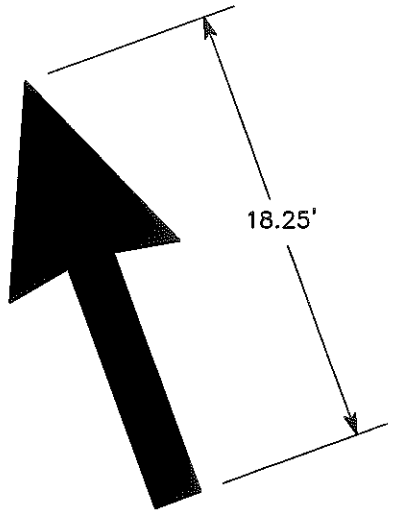
TURN AND THROUGH LANE–USE ARROW



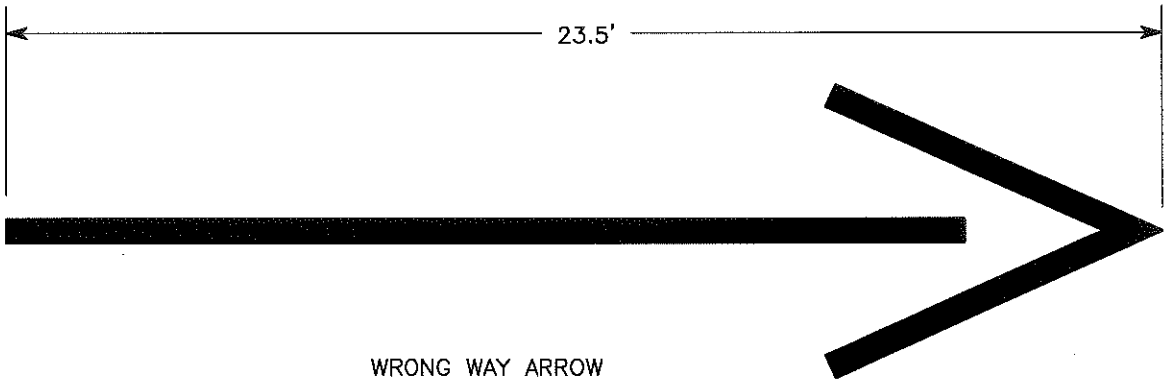
TURN LANE–USE ARROW



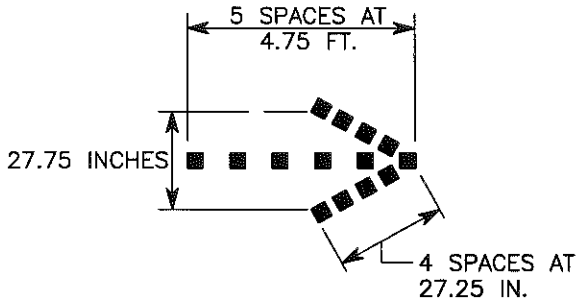
THROUGH LANE–USE ARROW



LANE–REDUCTION ARROW



WRONG WAY ARROW



WRONG–WAY ARROW USING RETROREFLECTIVE RAISED PAVEMENT MARKERS

03/20/01

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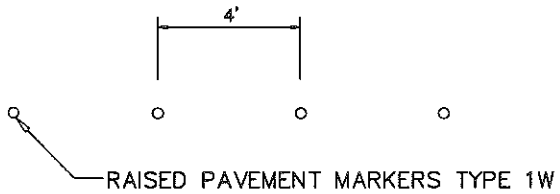
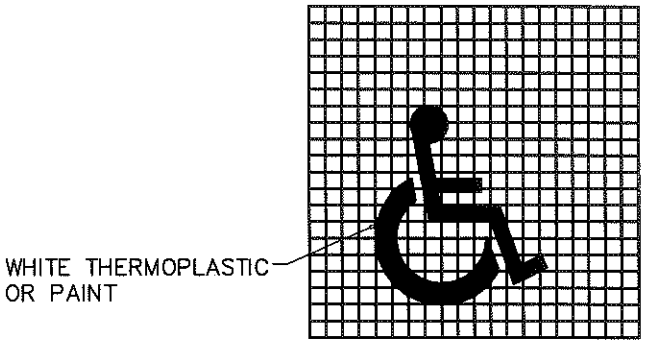
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven E Thurnau 2-10-03
7–130	PAVEMENT MARKINGS	COUNTY ROAD ENGINEER DATE

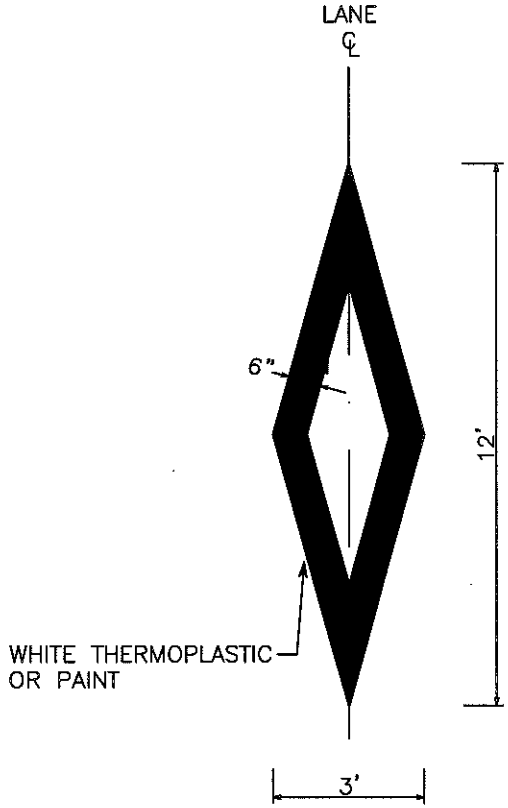


GUIDE SPOTS

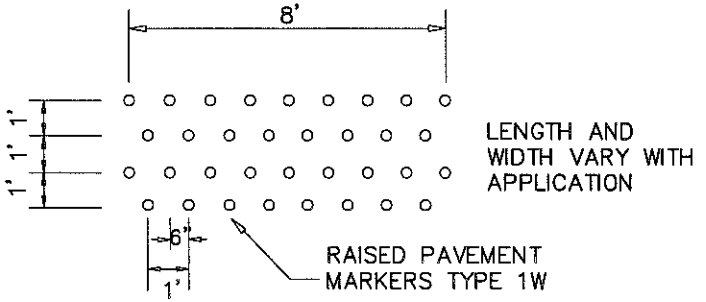


HANDICAPPED PARKING

STALL SYMBOL



PREFERENTIAL LANE SYMBOL



RUMBLE STRIP

03/20/01

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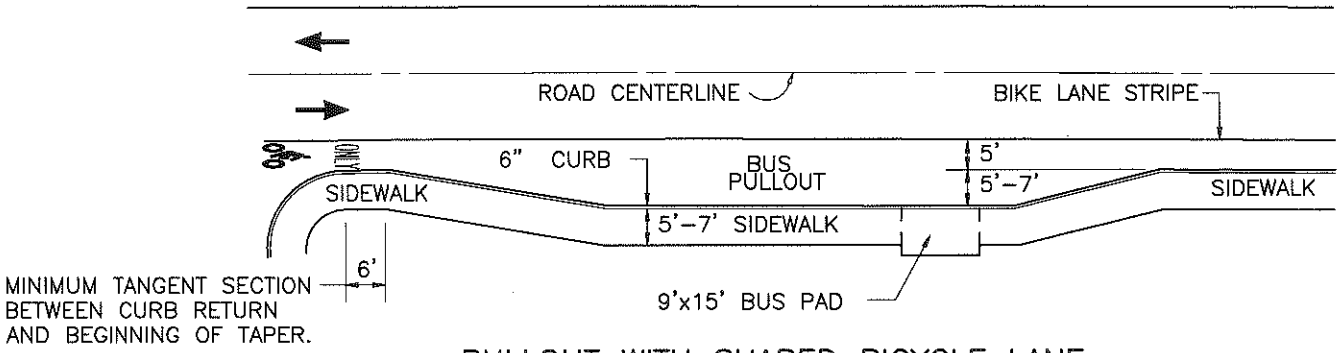
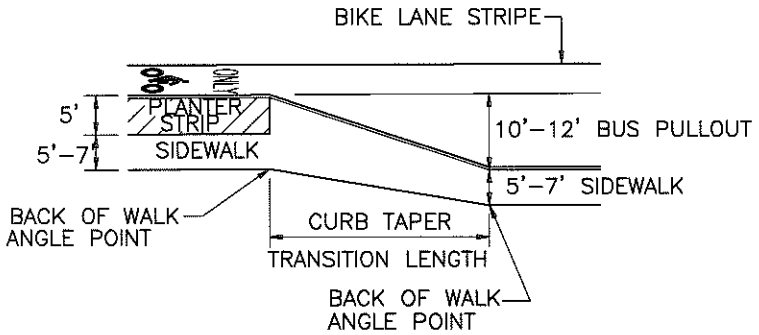
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven E Thomsen 2-10-03
	7–140 MISC. PAVEMENT MARKINGS (TYPICAL)	COUNTY ROAD ENGINEER DATE



PULLOUT WITH SHARED BICYCLE LANE



PULLOUT WITH SEPARATED BICYCLE LANE

NOTES:

1. FAR-SIDE BUS STOPS ARE PREFERRED ALTERNATIVE. NEAR-SIDE OR MID-BLOCK LOCATIONS MAY BE APPROVED ON A CASE BY CASE BASIS. REFER TO WSDOT DESIGN MANUAL, CHAPTER 1060.

2. THIS DRAWING REPRESENTS A TYPICAL DESIGN FOR PAVEMENT MARKINGS. BUS PULLOUT DESIGN DETAILS ARE PROVIDED IN TEXT SECTION 3-13 AND STANDARD DRAWING 3-160.

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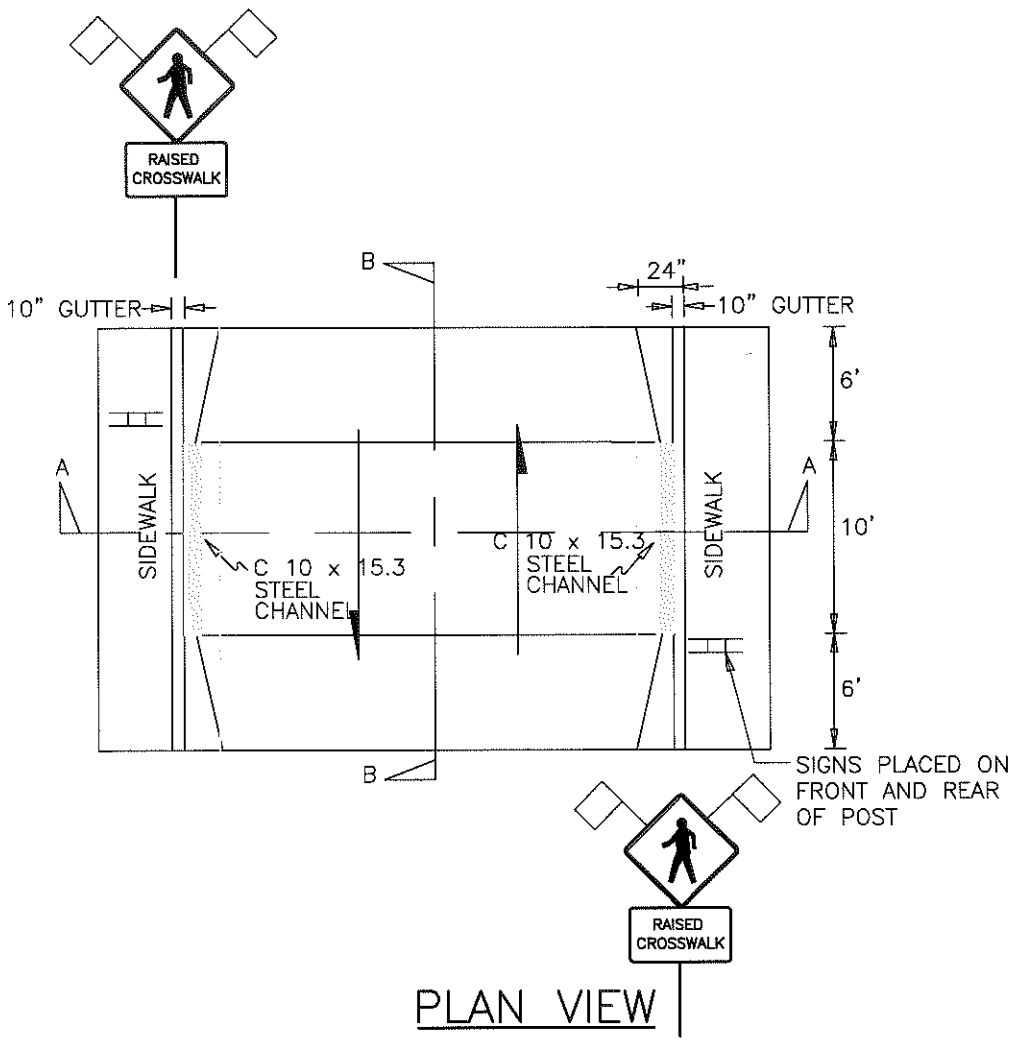
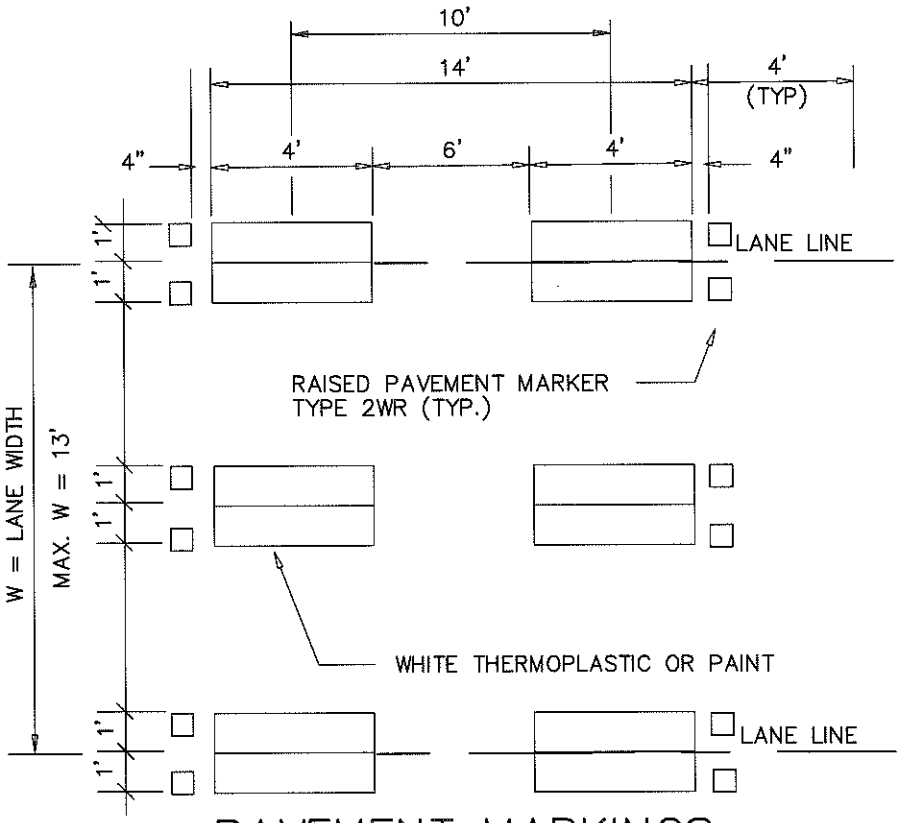
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steve E Thomas 4-17-03
7-150	BUS PULLOUT MARKINGS	COUNTY ROAD ENGINEER DATE



PLAN VIEW



PAVEMENT MARKINGS

NOTES:

1. ADVANCE WARNING SIGNS SHALL BE PLACED A MINIMUM OF 150 FEET IN ADVANCE OF THE CROSSWALK.

2. SECTIONS A–A AND B–B ARE SHOWN ON STANDARD DRAWINGS 7–160B AND 7–160C RESPECTIVELY.

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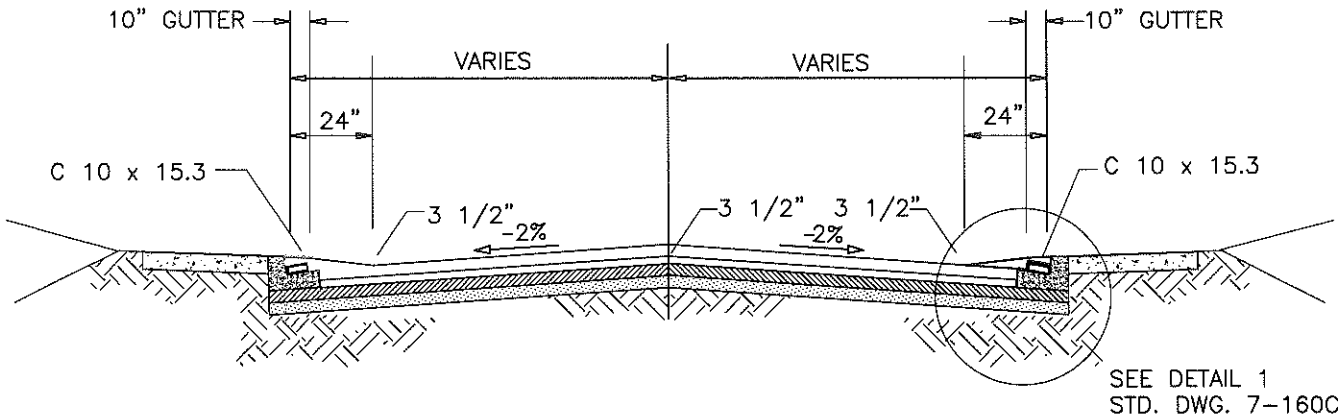
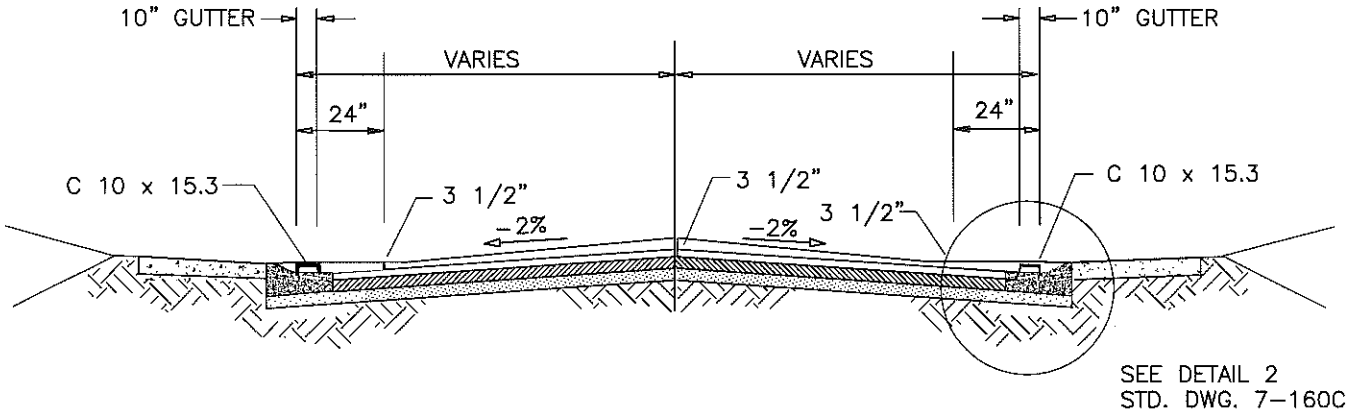
SNOHOMISH COUNTY PUBLIC WORKS		APPROVED BY: Steven E Thorsen 9-17-03
7–160A	RAISED PEDESTRIAN CROSSWALK	COUNTY ROAD ENGINEER DATE



OPTION 1 VERTICAL CURB

N.T.S.



NOTE:
ROLLED CURB MAY BE USED ONLY IN RURAL AREAS WHERE SPECIFICALLY APPROVED BY THE ENGINEER. OPTION 2 IS PROVIDED FOR RETROFIT PROJECTS.

OPTION 2 ROLLED CURB

N.T.S.

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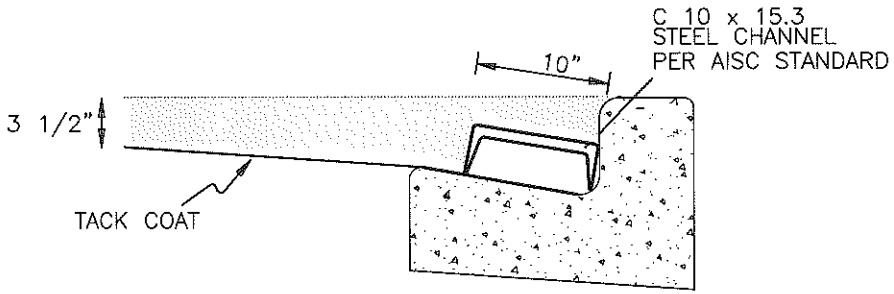
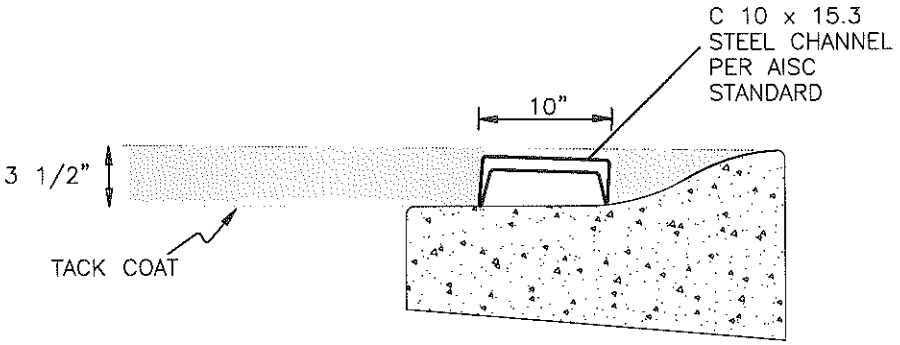
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Stuart Thomas 9-17-03
	7-160B RAISED PEDESTRIAN CROSSWALK SECTIONS	COUNTY ROAD ENGINEER DATE



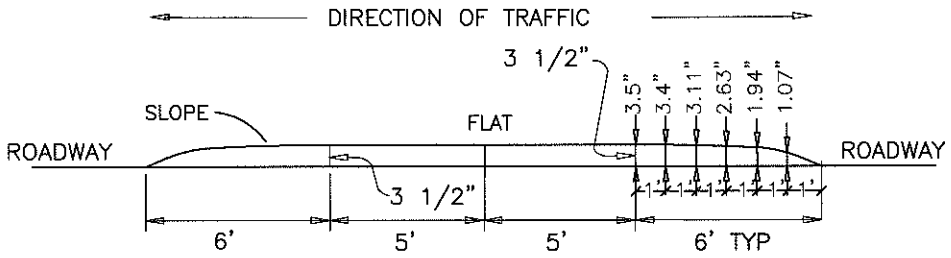
DETAIL 1
VERTICAL CURB AND STEEL CHANNEL

N.T.S.



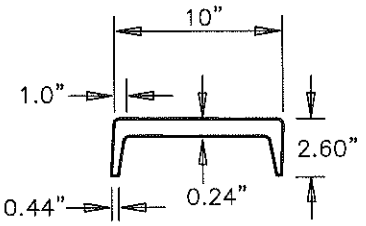
DETAIL 2
ROLLED CURB AND STEEL CHANNEL

N.T.S.



RAISED CROSSWALK CROSS SECTION

N.T.S.



C 10 X 15.3
CHANNEL DETAIL

N.T.S.

NOTE:

ROLLED CURB MAY BE USED ONLY IN RURAL AREAS WHERE SPECIFICALLY APPROVED BY THE ENGINEER. DETAIL 2 IS PROVIDED FOR RETROFIT PROJECTS.

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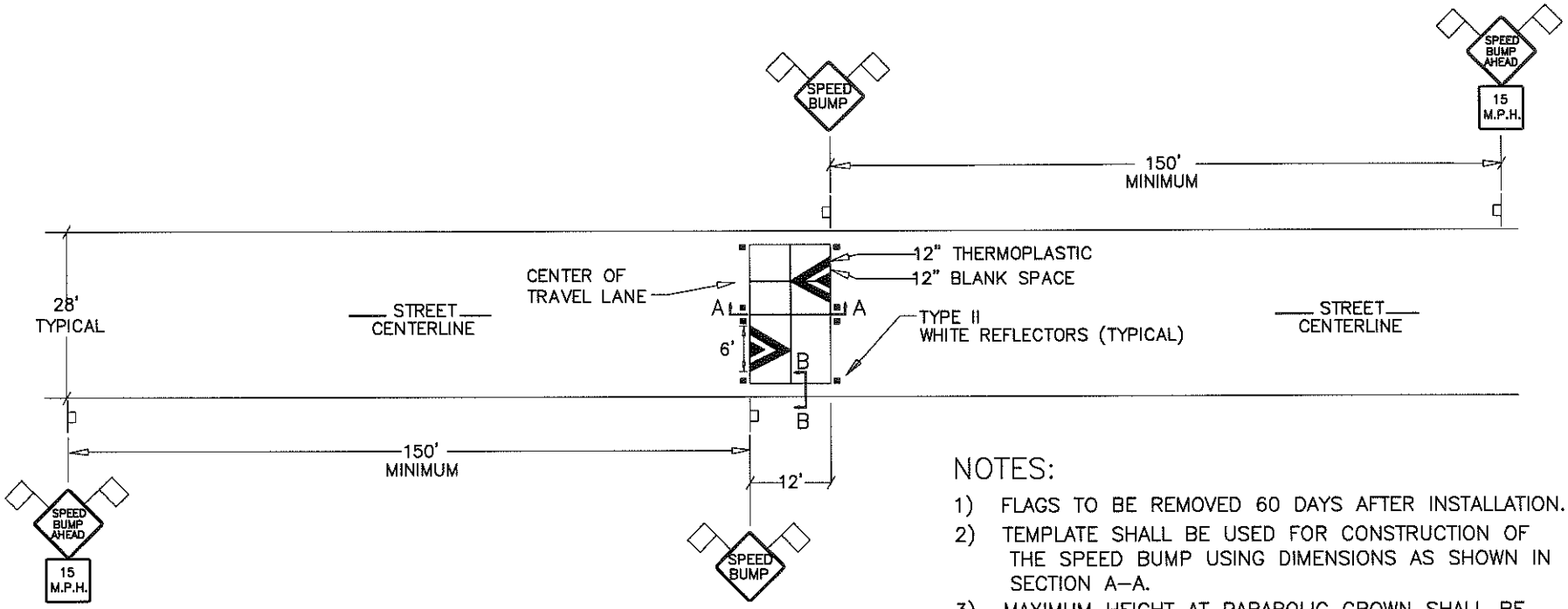
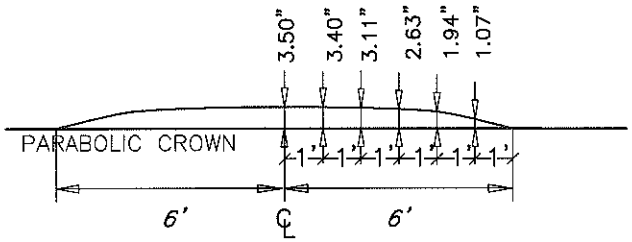
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven C Thomsen 4-17-03
	7-160C RAISED PEDESTRIAN CROSSWALK DETAILS	COUNTY ROAD ENGINEER DATE



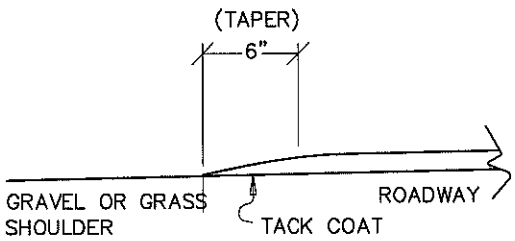
NOTES:

1) FLAGS TO BE REMOVED 60 DAYS AFTER INSTALLATION.
2) TEMPLATE SHALL BE USED FOR CONSTRUCTION OF THE SPEED BUMP USING DIMENSIONS AS SHOWN IN SECTION A–A.
3) MAXIMUM HEIGHT AT PARABOLIC CROWN SHALL BE NO MORE THAN 3.50 INCHES AFTER COMPACTION WITH AN ACCEPTABLE TOLERANCE TO A MINIMUM OF 3.25".



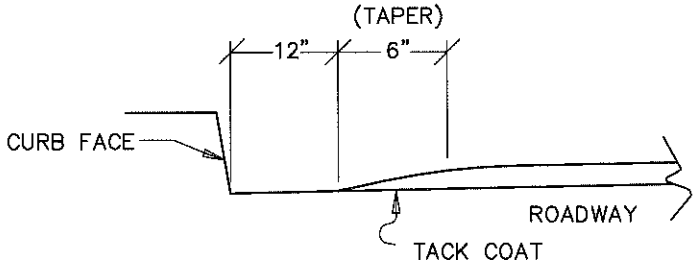
SECTION A–A

NOT TO SCALE



SECTION B–B SHOULDER DETAIL FOR STREETS WITHOUT CURBS

NOT TO SCALE



SECTION B–B SHOULDER DETAIL FOR STREETS WITH CURBS

NOT TO SCALE

SPEED BUMP MARKINGS SHALL BE A SERIES OF WHITE MARKINGS PLACED ON A SPEED BUMP TO IDENTIFY ITS LOCATION.

APPROPRIATE ADVANCE WARNING SIGNS SHALL BE USED IN CONFORMANCE WITH SECTION 2C.22 OF THE M.U.T.C.D.

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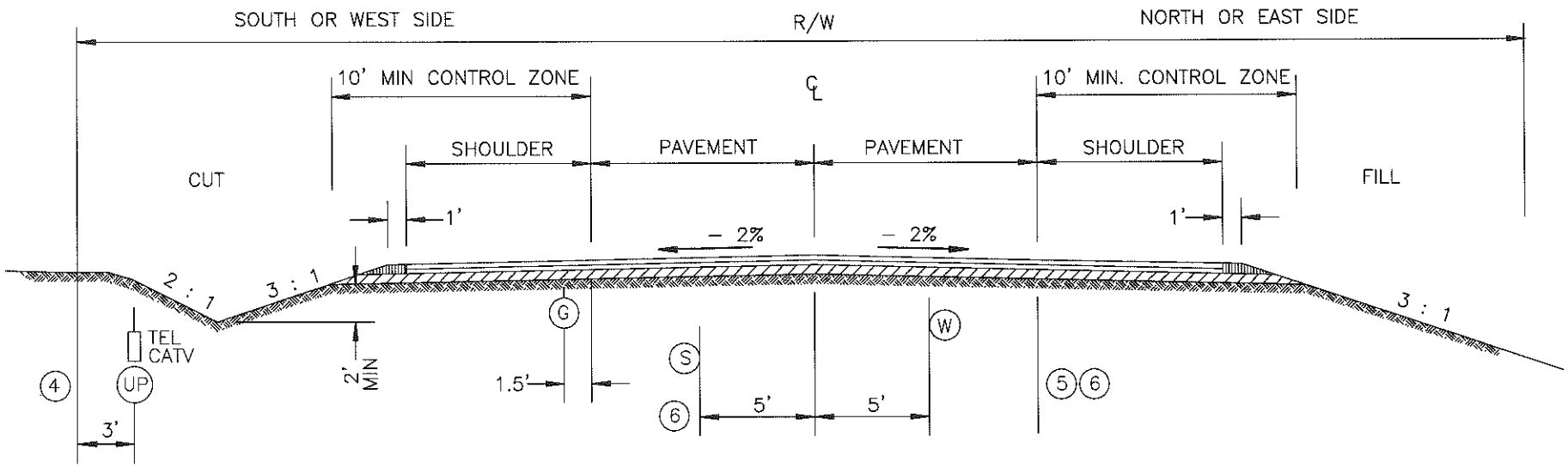
	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven E Thomsen 4-17-03
	7–170 SPEED HUMP	COUNTY ROAD ENGINEER DATE

CHAPTER 8 DRAWING INDEX

UTILITY LOCATIONS SHOWN ARE FOR NEW CONSTRUCTION. INSTALLATIONS WITHIN EXISTING ROADS MAY VARY AND WILL BE EVALUATED AT THE UTILITY PERMIT STAGE ON A CASE BY CASE BASIS. NO UTILITY SHALL BE LOCATED DIRECTLY BELOW A ROADSIDE DITCH OR SWALE.



NOTES:

1. MINIMUM COVER AND SEPARATION FOR FIBEROPTICS, SANITARY SEWER, WATER, GAS, POWER AND NON–FIBEROPTICS TELEPHONE AND CABLE TELEVISION SHALL BE IN COMPLIANCE WITH FEDERAL AND STATE REGULATIONS.

2. POWER POLES AND OTHER ABOVE GROUND UTILITY OBJECTS SHALL BE PLACED OUTSIDE CONTROL ZONE AREAS UNLESS (1) JUSTIFIED TO THE ENGINEER'S SATISFACTION BY SUITABLE ENGINEERING STUDIES CONSIDERING TRAFFIC SAFETY (2) SHIELDED BY A BARRIER, (3) PLACED IN AN AREA NORMALLY INACCESSIBLE TO VEHICLES OR (4) UTILIZING A BREAKAWAY DESIGN. INSTALLATION OF POWER POLES AND OTHER ABOVE GROUND UTILITY OBJECTS WILL NOT BE PERMITTED IN SIDEWALKS OR WALKWAYS.

3. CONTROL ZONE DISTANCES SHOWN APPLY TO ROADS WITH A POSTED SPEED OF 35 MPH OR LESS. CONTROL ZONE DISTANCES FOR ROADS POSTED AT GREATER THAN 35 MPH SHOULD BE DETERMINED ACCORDING TO CHAPTER 710, TRAFFIC BARRIERS, OF THE WSDOT DESIGN MANUAL.

4. POWER, TELEPHONE, CABLE TV AND GAS MAY SHARE THE SAME TRENCH IN RESIDENTIAL PLATS.

5. WATER LINE PREFERRED BENEATH SHOULDER. IF NOT PRACTICAL LOCATE AS SHOWN.

6. SANITARY SEWER AND WATER LINES SHALL HAVE 10 FT. MINIMUM HORIZONTAL SEPARATION AND 1.5 FT. MINIMUM VERTICAL SEPARATION FROM BOTTOM OF WATER LINE TO CROWN OF SEWER. REFER TO DOE "CRITERIA FOR SEWAGE WORKS DESIGN."

SEE TEXT SECTION 8–02

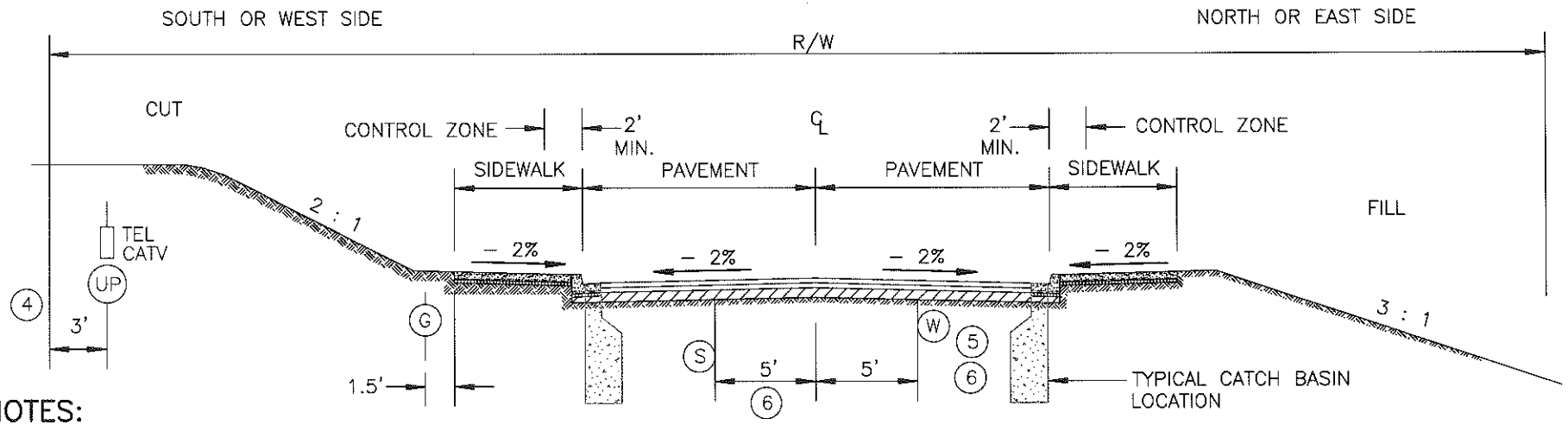
KEY

- (UP) UNDERGROUND POWER
- TEL / CATV TELEPHONE, CABLE TELEVISION
- (G) GAS
- (S) SANITARY SEWER
- (W) WATER

STORM SEWER NOT SHOWN

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: James E. Thorsen 10-1-04
	8–010 TYPICAL UTILITY LOCATIONS – SHOULDER SECTION	COUNTY ROAD ENGINEER DATE

UTILITY LOCATIONS SHOWN ARE FOR NEW CONSTRUCTION. INSTALLATIONS WITHIN EXISTING ROADS MAY VARY AND WILL BE EVALUATED AT THE UTILITY PERMIT STAGE ON A CASE BY CASE BASIS. NO UTILITY SHALL BE LOCATED DIRECTLY BELOW A ROADSIDE DITCH OR SWALE.



NOTES:

1. MINIMUM COVER AND SEPARATION FOR FIBEROPTICS, SANITARY SEWER, WATER, GAS, POWER AND NON–FIBEROPTICS TELEPHONE AND CABLE TELEVISION SHALL BE IN COMPLIANCE WITH FEDERAL AND STATE REGULATIONS.

2. POWER POLES AND OTHER ABOVE GROUND UTILITY OBJECTS SHALL BE PLACED OUTSIDE CONTROL ZONE AREAS UNLESS JUSTIFIED TO THE ENGINEER'S SATISFACTION BY SUITABLE ENGINEERING STUDIES CONSIDERING TRAFFIC SAFETY (2) SHIELDED BY A BARRIER, (3) PLACED IN AN AREA NORMALLY INACCESSIBLE TO VEHICLES OR (4) UTILIZING A BREAKAWAY DESIGN. INSTALLATION OF POWER POLES AND OTHER ABOVE GROUND UTILITY OBJECTS WILL NOT BE PERMITTED IN SIDEWALKS OR WALKWAYS.

3. CONTROL ZONE DISTANCES SHOWN APPLY TO ROADS WITH A POSTED SPEED OF 35 MPH OR LESS. CONTROL ZONE DISTANCES FOR ROADS POSTED AT GREATER THAN 35 MPH SHOULD BE DETERMINED ACCORDING TO CHAPTER 710, TRAFFIC BARRIERS, OF THE WSDOT DESIGN MANUAL.

4. POWER, TELEPHONE, CABLE TV AND GAS MAY SHARE THE SAME TRENCH IN RESIDENTIAL PLATS.

5. WATER LINE LOCATION TO BE DETERMINED BASED ON SITE CONDITIONS IN CONJUNCTION WITH THE WATER PROVIDER.

6. SANITARY SEWER AND WATER LINES SHALL HAVE 10 FT. MINIMUM HORIZONTAL SEPARATION AND 1.5 FT. MINIMUM VERTICAL SEPARATION FROM BOTTOM OF WATER LINE TO CROWN OF SEWER. REFER TO DOE "CRITERIA FOR SEWAGE WORKS DESIGN."

SEE TEXT SECTION 8–02

KEY

(UP)	UNDERGROUND POWER
TEL CATV	TELEPHONE, CABLE TELEVISION
(G)	GAS
(S)	SANITARY SEWER
(W)	WATER

	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven E Thomas 10-1-09
	8–020 TYPICAL UTILITY LOCATIONS – CURB SECTION	COUNTY ROAD ENGINEER DATE

NOTES:

1. LONGITUDINAL TRENCH – 2" ASPHALT CLASS B OVERLAY. TRANSVERSE TRENCH – 2" ASPHALT CLASS B OVERLAY WHERE MULTIPLE CROSSINGS BY SAME UTILITY.

2. EXISTING PAVEMENT.

3. LONGITUDINAL TRENCH – 6" ACP OR 2" ACP + 4" ATB. TRANSVERSE TRENCH – 8" ACP OR 2" ACP + 6" ATB. IF CONCRETE, RESTORATION SHALL BE IN ACCORDANCE WITH SECTION 5–05 OF THE WSDOT/APWA SPECIFICATIONS.

4. NATIVE MATERIAL, BANK RUN GRAVEL, CSTC OR CONTROL DENSITY FILL MAY BE REQUIRED BY THE ENGINEER.

5. NEAT LINE CUT, CLEAN, HEAT & TACK EDGES WITH SEALER CSS–1 & SEAL WITH HOT ASPHALT CEMENT.

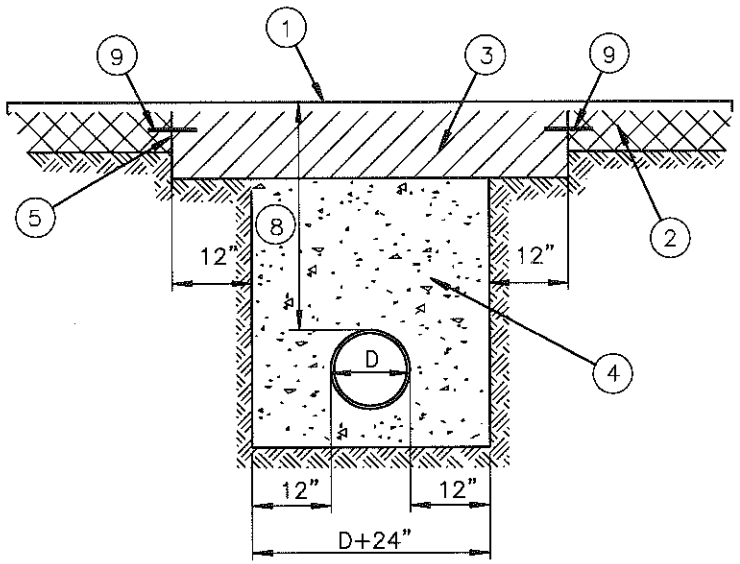
6. TEMPORARY RESTORATION OF TRENCHES FOR OVERNIGHT USE SHALL BE ACCOMPLISHED BY USING COLD MIX, ATB, OR STEEL PLATES.

7. PATCH SHALL BE MACHINE ROLLED FLUSH WITH EXISTING PAVEMENT AND SHALL BE PLACED PER SECTION 5–04 OF THE WSDOT/APWA SPECIFICATIONS.

8. COVER DEPTH OVER UNDERGROUND UTILITIES SHALL CONFORM TO FEDERAL AND STATE REGULATIONS.

9. TRENCHES IN CONCRETE PAVEMENT SHALL BE RESTORED USING TIE BARS OR DOWEL BARS IN ACCORDANCE WITH SECTION 5–05 OF THE WSDOT/APWA SPECIFICATIONS.

SEE TEXT SECTIONS 8–02, 8–04, 8–05.



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SNOHOMISH COUNTY PUBLIC WORKS

8–030 | UTILITY TRENCH RESTORATION AND BACKFILL

APPROVED BY: Steve Thomas 2-28-03

COUNTY ROAD ENGINEER DATE

GENERAL R/W USE RESTORATION REQUIREMENTS

1. AT THE ENGINEER'S DISCRETION, PRIOR TO COMMENCING ANY CONSTRUCTION, PHOTOGRAPHS DEPICTING PRE-EXISTING ROADWAY CONDITIONS WILL BE REQUIRED EVERY 50 FEET IN PAVED AREAS OR ANY OTHER LOCATION AS SPECIFIED BY THE ENGINEER.

2. SIGNING, FLAGGING AND TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THESE STANDARDS, THE WSDOT TRAFFIC MANUAL AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

3. ONE LANE OF TRAFFIC SHALL REMAIN OPEN AT ALL TIMES, ATTENDED BY FLAGMEN AND APPROPRIATE CONSTRUCTION SIGNING PROVIDED. THE ROAD SHALL BE RESTORED TO TWO-WAY TRAFFIC AT THE END OF EACH WORKING DAY. APPLICATIONS FOR TOTAL ROAD CLOSURES MUST BE FILED WITH SNOHOMISH COUNTY PUBLIC WORKS AT LEAST 5 DAYS PRIOR TO THE ANTICIPATED CLOSURE.

4. EXISTING DRAINAGE DITCHES, CULVERTS, ETC., SHALL BE KEPT CLEAN AT ALL TIMES. TEMPORARY DIVERSION OF ANY DRAINAGE SYSTEM WILL NOT BE PERMITTED WITHOUT THE CONSENT OF THE ENGINEER. ANY DRAINAGE CULVERT, CATCHBASIN, MANHOLE OR OTHER DRAINAGE STRUCTURE DISTURBED BY EXCAVATION SHALL BE REPLACED WITH NEW MATERIAL OR REPAIRED TO THE SATISFACTION OF THE ENGINEER. TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES SHALL BE EMPLOYED TO PROTECT ADJACENT PROPERTY AND STORM DRAINAGE FACILITIES.

5. GRAVEL SHOULDERS DISTURBED BY EXCAVATION SHALL BE SHAPED TO COUNTY STANDARDS AND PROVIDED WITH A MINIMUM OF 6 INCHES COMPACTED CRUSHED SURFACING TOP COURSE.

6. IF IN THE OPINION OF THE ENGINEER, WEATHER CONDITIONS DETERIORATE TO THE POINT WHERE THE TRAVELED ROADWAYS ARE UNSAFE FOR THE PUBLIC OR DETRIMENTAL TO THE RESTORATION OF THE ROADWAY, EXCAVATION SHALL CEASE IMMEDIATELY AND CLEANUP SHALL BE PROMPTLY ACCOMPLISHED.

7. ALL PIPE OR OTHER MATERIAL STORED ALONG COUNTY RIGHT-OF-WAY MUST BE PLACED AT A SAFE DISTANCE FROM THE TRAVELED ROADWAY IN SUCH A MANNER AS TO AVOID FALLING ONTO THE ROADWAY.

8. NO EXCESS OR UNSUITABLE MATERIAL SHALL BE WASTED ON COUNTY RIGHT-OF-WAY. ANY SUCH MATERIAL DUMPED ON PRIVATE PROPERTY MAY REQUIRE A GRADING PERMIT. VERIFICATION WITH SNOHOMISH COUNTY PLANNING & DEVELOPMENT SERVICES IS REQUIRED.

9. STREET SURFACES SHALL BE CLEANED AT THE END OF EACH DAY'S OPERATION WITH A POWER BROOM OR OTHER APPROVED MEANS.

10. NO OPEN CUT CROSSING OF COUNTY ROADS OR STREETS SHALL BE MADE WITHOUT THE APPROVAL OF THE ENGINEER.

11. MAXIMUM AMOUNT OF OPEN TRENCH IN ROADS SHALL BE 400 LINEAL FEET. AT THE END OF EACH DAY, ALL DITCHES MUST BE BACKFILLED OR COVERED WITH STEEL PLATES AND BARRICADED WITH FLASHING WARNING LIGHTS TO PREVENT PEOPLE OR ANIMALS FROM FALLING INTO THE TRENCH.

12. FINAL CLEANUP INCLUDING COMPLETE RESTORATION OF SHOULDERS, CLEANING OF DITCHES, CULVERTS AND CATCHBASINS, AND REMOVAL OF LOOSE MATERIAL FROM BACK SLOPES OF DITCHES SHALL NOT EXCEED 1500 L.F. BEHIND EXCAVATING OPERATIONS OR AS REQUIRED BY THE ENGINEER.

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	SNOHOMISH COUNTY PUBLIC WORKS	APPROVED BY: Steven E. Thomas 2-10-03
	8-040 GENERAL R/W RESTORATION REQUIREMENTS	COUNTY ROAD ENGINEER DATE